DOCUMENT RESUME

ED 408 420 CE 073 979

TITLE	Minnesota Career Focus. Careers & Training: A Guide for Adults.
INSTITUTION	Minnesota State Dept. of Economic Security, St. Paul.
PUB DATE	96
NOTE	161p.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Adult Education; *Career Change; Career Development; Career Education; *Demand Occupations; *Employment Opportunities; Job Skills; *Job Training; Labor Market; Labor Needs; *Occupational Information; Salaries; Two Year Colleges
IDENTIFIERS	*Minnesota

ABSTRACT

This guide to Minnesota training resources for adults seeking new employment opportunities provides an overview of careers, wages, job availability, and necessary training. Occupations are described in these areas: medical careers; office professions; technical careers; art, writing, and media careers; service careers---food, hair, police; mechanic careers; precision machine crafts; construction careers; driving occupations; sales careers; careers needing 4 years of training; and jobs requiring no training. Information in each area is presented in a two-page format with eight columns listing the following: (1) job title and job duties; (2) number employed in the occupation; (3) salaries--low-range; (4) salaries--midrange; (5) growth rate; (6) job openings; (7) training needed; and (8) availability of jobs. Other sections contain the following: list of shrinking occupations and popular occupations with few job openings and growing occupations; detailed information about medical careers, computer careers, media careers, accounting, cosmetology, cooking, corrections, machine tool, printing, construction, drivers, and sales; discussion of whether training will result in a job or good pay; technical and community college addresses; majors and training programs at technical and community colleges; sources of short-term training; examples of customized training; and mature workers and employer expectations. An index is followed by a list of regional offices to call to find out qualifications for eligibility. (YLB)

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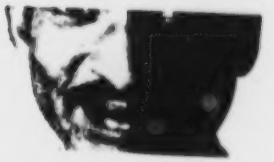
Minnesota CAREER FOCUS

CAREERS & TRAINING: A GUIDE FOR ADULTS



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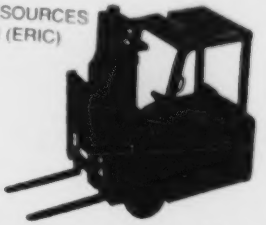

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MINNESOTA CAREER FOCUS 1996

This publication is a guide to Minnesota training resources for adults seeking new employment opportunities. As the workplace of the 1990s continues to change, workers are challenged to learn new skills and abilities. Often individuals who have been dislocated from prior employment must explore career alternatives. The information in this booklet provides an overview of careers, wages, job availability and training needed for employment. The reader will also find on page 80 a directory of dislocated worker agencies that serve persons who are seeking new jobs or new careers. Finally, this booklet lists other helpful information, such as training programs available at technical and community colleges.

—Minnesota Department of Economic Security—
—Dislocated Worker Program—

Minnesota Career FOCUS 1996 was prepared for:
Minnesota's Dislocated Worker Programs
Jim Korkki, Director

Many counselors and support people who work with dislocated workers contributed to the development of *FOCUS*. A special thanks to three people whose contribution was especially significant:

Louis Huether Connie McGowan Betty Petron

And others who provided valued contributions:

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Steven Chirpich
Joe Crowe
John Gonzalez
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Jeff Hohbach
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Also thanks to LH, CD, TH, AFH, MM, YA.

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How to Use *Minnesota Career FOCUS*

JOB TITLE & DUTIES

In this column, *Minnesota Career FOCUS* provides you with the job title & job duties for each of the 200 common occupations on the following 40 pages.

Some occupations have a very complicated set of duties, such as "General Manager" (the head of a large organization). A manager's job usually carries an enormous amount of responsibility, involves difficult decision-making, and requires 50–80 hours of work per week, without extra pay. Many of these jobs are rewarded with high pay, of course.

Other occupations have simple duties that are easy to understand and perform, and don't require high-level decisions or risk.

Other differences in duties from occupation to occupation are:

- whether they require movement or strength.
- whether they require special skills in language, math, etc.
- whether they require certain knowledge, such as mechanical know-how.

SIZE OF OCCUPATION

In this column, *FOCUS* tells you how many paying jobs exist in Minnesota in each of the 200 occupations on the next 40 pages, that is, how big each occupation was in 1993.

0 10,000 20,000 30,000 or more

Some occupations are very large. Example: 51,000 people work as secretaries in Minnesota, making it one of the largest occupations.

0 10,000 20,000 30,000+

Some occupations are very small. Example: There are only 230 motorcycle mechanics who have paying jobs in Minnesota.

0 10,000 20,000 30,000+

The average size of the occupations that we look at in this booklet is about 5,000 workers.

0 10,000 20,000 30,000+

We have taken our information on sizes of occupations from *Minnesota Employment Outlook to 2001*, which is developed by our agency, the Research and Statistics Office of the Minnesota Department of Economic Security, 612-296-6545.

SALARIES – LOW-RANGE

FOCUS gives you a low-range salary figure for each occupation on the next 40 pages. Nine out of ten workers in the occupation earn at least this amount per hour (1994).

0 $5 $10 $15 $20 or more

In some occupations almost all the workers get paid above $10 per hour. Example: Nine out of ten registered nurses earn over $13.90 per hour.

0 $5 $10 $15 $20

Some jobs pay the minimum wage. Fast food jobs & waitressing, which don't require much training, are likely to pay about $4.25/hr.

0 $5 $10 $15 $20

The average low-range pay:
If we average* the low-range pay for all occupations, from doctors ($33/hr.) to fast food cooks ($4.40/hr.), the average we get is about $8.40 per hour.

0 $5 $10 $15 $20

*Weighted average of the 10th percentile for all occupations listed in the *Minnesota Salary Survey 1994* (*10th percentile* means 10% earn less, 90% earn more).

We've taken most of our salary information from the *Minnesota Salary Survey 1994*, which is also developed by our agency. Other information on salaries comes from the *Occupational Outlook Handbook*.

SALARIES – MID-RANGE

In this column, *FOCUS* gives you a mid-range salary figure on the following 40 pages. Half of the workers in the occupation earn at least this amount per hour (1994).

0 $5 $10 $15 $20 or more

In some occupations, the mid-range salary can be over $20/hr. Some examples:
Physicians: $56
Lawyers: $26
Gen'l Mgrs: $25
Electrical Engineers: $23.

0 $5 $10 $15 $20+

For some jobs, the mid-range salary might never be much higher than the low-end salary. Some examples:
Fast food: $5.10
Cashiers: $5.50.

0 $5 $10 $15 $20

The average mid-range pay:
If we average** the mid-range pay for all occupations, from doctors ($55/hr.) to fast food cooks ($5.10/hr.), the average we get is about $12 per hour.

0 $5 $10 $15 $20

**Weighted average of the 50th percentile (half earn less, half earn more) for all occupations in the *Minnesota Salary Survey 1994*.

We've taken most of our salary information from the *Minnesota Salary Survey 1994*, which is also developed by our agency. Other information on salaries comes from the *Occupational Outlook Handbook*.

BELOW YOU CAN SEE THE TYPES OF INFORMATION LISTED ON THE NEXT 40 PAGES

GROWTH RATE

Minnesota Career FOCUS tells you in this column how fast each occupation is growing, that is, the percent increase from 1993 to 2001 or the rate at which new jobs are being created.

0% 5% 10% 15% 20% or more

Some fields are growing quickly. From 1993 to 2001, we will need 69% more human services workers, 67% more computer engineers, and 65% more systems analysts.

0% 5% 10% 15% 20%+

Some fields are actually getting smaller from 1993 to 2001: 22% fewer computer operators, 18% fewer telephone equipmt. repairers, & 10% fewer farmers.

0% -5% -10% -15% -20%+

The average rate of growth of all occupations in Minnesota between 1993 and 2001 is predicted to be around 12.6%. In other words, if an occupation has 1000 workers in 1993, we are predicting that it will have 126 actual new jobs by 2001, as a result of growth.

0% 5% 10% 15% 20%+

We have taken most of our information on growth rates of occupations from *Minnesota Employment Outlook to 2001*, which is developed and produced by our agency, the Research and Statistics Office of the Minn. Dept. of Economic Security. 612-296-6545.

JOB OPENINGS

FOCUS lists the average number of job openings per year that are available for new workers in each occupation till 2001—*new* jobs plus jobs available due to *retirements, deaths*, etc.

0 500 1000 1500 2000 or more

Some fields will have many job openings for new workers: 1,560 new driving jobs per year till 2001 & 1,300 registered nursing jobs per year.

0 500 1000 1500 2000+

Some fields will have few job openings for new workers: only 40 openings/year for new reporters, 30 for new foresters, & 30 for new biologists.

0 500 1000 1500 2000+

The average number of job openings for new workers per occupation is 180 per year.

0 500 1000 1500 2000+

Again, we have taken most of our information for future job openings in occupations from *Minnesota Employment Outlook to 2001*.

TRAINING NEEDED

In this column, *FOCUS* tells you how many years of full-time training are generally needed to enter each of the occupations on the next 40 pages.

HS HS+ 1yr HS+ 2yr HS+ 3yr HS+ 4yr

Some require several years of full-time training past high school. Doctors & lawyers need 7 years or more; registered nurses 2 years or more.

HS +1yr +2yr +3yr +4yr

Some fields require only high school graduation (sometimes even less). For example, packagers in factories.

HS +1yr +2yr +3yr +4yr

What's the average amount of *school* training that you need for a typical job? It's difficult to determine. But we estimate that the average school training time is about one year past high school. It ranges from 8 or more years for physicians to less than high school for many retail store jobs & for fast food counter workers.

HS +1yr +2yr +3yr +4yr

We have taken most of our information on training requirements from our own surveys and from the Minnesota Career Information System (MCIS), which is operated by the Minnesota Department of Children, Families, and Learning.

AVAILABILITY OF JOBS

FOCUS tries to answer the following questions in this column: What is the job market like for these occupations? How easy is it to find jobs? What does the future hold?

Poor Caution Fair Good Excellent

For some fields, opportunities will be excellent, with more jobs than job-seekers: medical assistants, physical therapists, and home health aides.

Poor Caution Fair Good Excellent

In some fields, it's hard to find a job, because not nearly enough openings exist to match the number of job-seekers who have completed training for those fields.

Poor Caution Fair Good Excellent

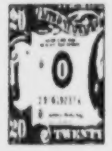
The job outlook for the typical occupation is "fair."

Poor Caution Fair Good Excellent

Our statements about job availability are based on information that we gathered in surveys completed during the fall of 1995:

- Survey of more than 300 *professional and business associations*.
- Survey of more than 300 *labor organizations*.
- Survey of all *4-year colleges, technical colleges, and community colleges* with over 500 students.

MEDICAL CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
REGISTERED NURSE RN's perform professional nursing services in the treatment and care of patients. *See more on page 50.*	37,110 people work as RN's in Minnesota.	Nine out of ten RN's earn over $13.90 /hr.	One-half of all RN's earn over $18.50/hour, usually with experience.
LICENSED PRACTICAL NURSE LPN's care for patients who are less than acutely ill. Also care for convalescent and chronic patients. Assist registered nurse in the care of the more acutely ill. *See more on page 50.*	17,430 licensed practical nurses work in Minnesota.	Nine out of ten LPN's earn over $9.03/hr.	One-half of all LPN's earn over $11.05/hour, usually with experience.
MEDICAL LAB TECH (or Clinical Lab Tech) TECHNOLOGISTS perform complex lab procedures or specialized procedures in cytology, histology, and microbiology. TECHNICIANS perform routine lab tests in treatment and diagnosis of disease.	5,110 medical lab techs work in Minnesota.	Nine out of ten medical lab *technologists* earn over $11/hr. Nine out of ten medical lab *technicians* earn over $9.07/ hr. 	One-half of all medical lab *technologists* earn over $15.34/hour, One-half of all medical lab *technicians* earn over $11.02/ hr.
RADIOLOGIC TECH Radiologic technologists take X-rays, catscans, or administer nonradioactive materials into patient's blood stream. Use equipment to show portions of the human body on X-ray or fluoroscopic screen for diagnosis.	2,640 people work as radiologic techs in Minnesota.	Nine out of ten radiologic techs earn over $10.41/hr.	One-half of all radiologic techs earn more than $12.75 /hour, usually with experience.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

Registered nursing has an above-average growth rate. From 1993–2001, the number of RN's employed will increase by 18%.

0% 5% 10% 15% 20%+

LPN is a field growing at an average rate. From 1993-2001, the number of LPN's employed will increase 17%.

0% 5% 10% 15% 20%+

Medical lab work has an average growth rate. From 1993 to 2001, the number of medical lab techs employed will increase by 12%.

0% 5% 10% 15%

Radiology is a field growing at a very fast rate. From 1993-2001, the number of radiologists employed will increase 31%.

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 1,310 new RN's yearly to 2001, to fill new positions and to replace retirees.

0 500 1000 1500

Minnesota will need 610 new LPN's yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 160 new medical lab techs yearly to 2001, to fill new positions and to replace retirees.

0 500

Minnesota will need 140 new radiologic techs yearly to 2001, to fill new positions and to replace retirees.

0 500

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

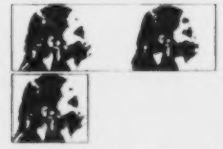
Most RN's have degrees from 2–yr community colleges or 4–yr colleges. In addition they must pass a licensing test to enter the field.

HS +1yr +2yr +3yr

Most training programs for LPN's take 9–12 months to complete at public tech colleges. In addition LPN's must pass a licensing test to enter the field.

HS +1yr

Medical *technologists* need a 4–yr. degree in medical technology. Med lab *technicians* complete a 1 or 2 yr. program at a tech or comm. college or a hospital.



HS +1yr +2yr +3yr +4yr

Training takes 2 to 4 yrs. Most common are 2–yr courses, either at hospitals or at comm. or tech colleges. License not required, but employers may want ARRT certification.

HS +1yr +2yr +3yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Job openings almost always exist in this large occupation. However, because hospitals are downsizing in order to lower costs, some nursing school graduates are having difficulty getting their first jobs. Still, in August 1995, five community colleges and four 4–year colleges listed RN as a field *most likely to lead to jobs*. And experts predict a high need for RN's in the next 10 years. Best chances: nursing homes & rural areas, & in-home care with 1 yr. experience. See more on p. 50.

Poor Caution Fair Good Excellent

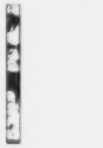
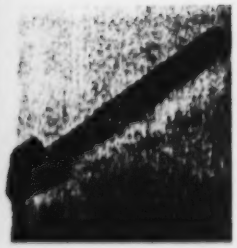
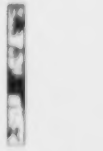
Thirteen tech colleges said in Aug 95 that LPN is *the #1* most likely program to lead to jobs, ranking LPN above all other training programs. Opportunities should be very good for the next 10 years statewide, especially in nursing homes. Hospitals, however, are hiring LPN's less often. Best chances for jobs are in nursing homes & in rural areas. Nationally, U. S. News & World Report (Oct 94), named LPN as a "Hot Job Track." See more on p. 50.

Poor Caution Fair Good Excellent

Prospects are good. A medical lab association said in Aug 95 that "In the four areas of this field—medical technologist (MT), medical lab technician (MLT), cytotechnologist (cells, pap smears), histological tech (tissue prep for microscope)—the outlook is excellent. Graduates of our programs have no trouble getting jobs." Three tech and community colleges also listed med lab tech training as highly likely to lead to jobs.

Confusing outlook : this field is predicted to grow very fast in the next 10 to 15 years. But currently it is difficult for new graduates to find jobs, especially in the metro area, because so many training programs exist. One school said in July 95 that relocation "outside metro area or out of state [possibly Calif. & Fla.]...will increase chances of work." However, the long-term outlook is good because of the aging population & increased use of radiology in the treatment of cancer.

MEDICAL CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
MEDICAL ASSISTANT Performs various duties under the direction of physician in examination & treatment of patients. Prepares treatment room, checks supplies & instruments, & sets up patient for attention of physician. Handles instruments & materials.	1,970 people work as medical assistants in Minnesota. 0 10,000 20,000 30,000+  0 10,000	Nine out of ten medical assistants earn over $7.10/hour. 0 $5 $10 $15 $20+ 0 $5 $10	One-half of all medical assistants earn over $9.17/hour, usually with experience. 0 $5 $10 $15 $20+ 0 $5 $10
 **DENTAL HYGIENIST** Perform dental prophylactic treatments and instruct groups and individuals in care of the teeth and mouth.	2,550 people are employed as dental hygienists in Minnesota. 0 10,000	No sure data is available for low range pay, but starting salaries for recent graduates reportedly often exceed $15/hr., & even $2 higher in metro area. 0 $5 $10 $15 $20+	One-half of all dental hygienists ***nationally*** earn over $18.50 per hour, usually with experience. No sure info is available for mid-range pay in Minnesota. 0 $5 $10 $15 $20+
DENTAL ASSISTANT Assist dentist at chair, set up patient and equipment, keep records, & perform related duties as required.	3,920 people are employed as dental assistants in Minnesota. 0 10,000	Nine out of ten dental assistants earn more than $9.00/hr. 0 $5 $10	One-half of all dental assistants earn more than $12.00 per hour, usually with experience. 0 $5 $10 $15
 OPTICIAN: **Dispensing & Measuring** Design, measure, fit, and adapt lenses and frames for clients according to written optical prescription or specification.	2,680 people work as opticians in Minnesota.  0 10,000	Nine out of ten opticians earn over $6.26 /hr. 0 $5 $10	One-half of all opticians earn over $10.00/hr., usually with experience. 0 $5 $10 $15

GROWTH RATE

How fast this occupation is growing (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

The medical assistant occupation has a very fast growth rate. From 1993 to 2001, the number employed will increase by 35%.

Minnesota will need 110 new medical assistants yearly to 2001, to fill new positions and to replace retirees.

Training varies from 9 to 24 months for medical assistants, at tech colleges or community colleges. However, some med assistants are trained on-the-job.

Excellent prospects for medical assistants who have experience and school training. In Minnesota this occupation is growing very fast from 1993 to 2001. Nationally, U. S. News & World Report magazine (Oct 94), named Medical Assistant as one of its predicted "20 Hot Job Tracks," suggesting it is a field which will have a high demand in the future. One drawback: low salaries.

Dental hygiene is a field growing at an above-average rate. From 1993–2001, the number of dental hygienists employed will increase 22%.

Minnesota will need 100 new dental hygienists yearly to 2001, to fill new positions and to replace retirees.

Training programs for dental hygienists take 2 yrs. or 4 yrs. to complete. Must also pass a licensing test.

Job availability will be good for the next 3 or 4 years. In 5 to 8 years, job prospects may decrease, because school programs are expected to produce more graduates, but the outlook will still be good. The *Star Tribune* in Nov 95 said there's a "continuing shortage of hygienists....Demand is up." But a hygienist assn. said in July 95, "we wouldn't say full-time jobs are plentiful....Many jobs are part-time, 2-3 days per week. Some hygienists take 2 jobs & sacrifice health insurance, vacation, sick leave."

Dental assisting is a field growing at an above-average rate. From 1993–2001, the number of dental assistants employed will increase 19%.

Minnesota will need 190 new dental assistants yearly to 2001, to fill new positions and to replace retirees.

Some dentists train their own assts., but most hire trained people from tech colleges or private schools (9-12 mos.). To perform higher-level duties, need licensing.

Opportunities should be very good. Because there will be increased demand for dental services, dentists are expected to hire more assistants to perform routine tasks. Four tech & community colleges list *dental assistant* as a field most likely to lead to jobs. Nationally, U. S. News & World Report (Oct 94) named dental assistant as one of its predicted "Hot Job Tracks," suggesting it is a field which will have a high demand in the future.

Optician work is a field growing at an average rate. From 1993 to 2001, the number of opticians employed will increase 14%.

Minnesota will need 80 new opticians yearly to 2001, to fill new positions and to replace retirees.

Various ways to get training: on-the-job; or 1 to 2 yrs. of formal schooling at tech colleges or comm. colleges, or work at related jobs.

Opportunities should be very good. Graduates of optical training programs will be in demand. Some comments from schools: ◆ Very good field, due to the aging population: older people are more likely to need glasses. ◆ Good chances for jobs. ◆ Students need to know more about the optical field, because it is very good. One tech college lists *optician* as very likely to lead to jobs.

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MEDICAL CAREERS

JOB TITLE & DUTIES
What kind of work do the people in this occupation do on the job.

SIZE OF OCCUPATION
How many paying jobs exist in this occupation in Minnesota (1993).

SALARIES - LOW RANGE
Nine out of ten workers in this occupation earn at least this amount per hour (1994).

SALARIES - MID RANGE
Half of the workers in this occupation earn at least this amount per hour (1994).

NURSE ASSISTANT
Perform medical care duties such as answering patient's bell call, serving & collecting food trays, feeding patients, setting up equipment. Work under the direction of nursing staff.

Over 30,390 people work as nurse assistants or orderlies in Minnesota.

Nine out of ten nurse assistants earn more than $6.10 per hour.

One-half of all nurse assistants earn more than $7.65 per hour, usually with experience.

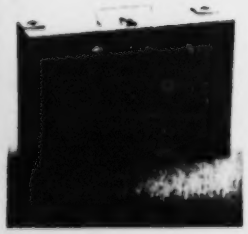
HOME HEALTH AIDE
Care for elderly, convalescent, or handicapped person in home of patient. Assist patient by changing bed linen; preparing meals; assisting in & out of bed; bathing, dressing, & grooming; & giving medicine under doctor orders.

10,450 people work as home health aides in Minnesota.

Nine out of ten home health aides earn over $6.00 per hour.

One-half of all home health aides earn over $7.30 per hour, usually with experience.

		0 10,000 20,000 30,000+		0 $5 $10 $15 $20+		0 $5 $10 $15 $20+
HEALTH THERAPISTS						
Speech Pathologists & Audiologists	1,710		$14.00		$18.25	
Occupational Therapists	930		$14.20		$16.30	
Physical Therapists	1,800		$10.00		$19.90	
Recreational Therapists	910		$6.70		$10.10	
Respiratory Therapists	770		$12.00		$14.60	
HEALTH CARE MAINTENANCE WORKERS						
Emergency Medical Technicians	1,980		$5.80		$8.70	
Physician Assistants	760		$12.50		$20.00	
HEALTH TECHNICIANS						
Medical Records Technicians & Technologists	1,950		$6.40		$8.30	
Surgical Technicians & Technologists	1,200		$9.30		11.60	
Nuclear Medicine Technologists	200		??$13.00		??$16.00	
EEG Technologists	100		??$10.00		??$12.00	
EKG Technicians	210		??$7.50		??$8.50	
HEALTH SERVICE AIDES & ATTENDANTS						
Psychiatric Aides	940		$7.70		$12.50	
Physical & Corrective Therapy Assistants	1,210		$6.50		$9.40	
Occupational Therapy Assistants	460		$8.50		$10.50	
Ambulance Drivers & Attendants	200		??$		??$	
Pharmacy Assistants	920		$5.70		$8.90	



MORE ABOUT HEALTH FIELDS ON PAGES 50-51.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

The nurse assistant field is growing at an average rate. By 2001, the number of nurse assts. will increase by 17%.

0% 5% 10% 15% 20%+

The home health aide field is growing at a very fast rate. From 1993 to 2001, the number of aides employed will increase 62%.

0% 5% 10% 15% 20%+

20% 37% 40% 7% 24%

20% 18%

35% 22% 25% 27% -11%

18% 43% 45% 17% 18%

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 990 new nurse assistants & orderlies per year till 2001,to fill new positions and to replace retirees.

0 500 1000 1500

Minnesota will need 930 new home health aides yearly to 2001, to fill new positions and to replace retirees.

0 500 1000 1500 2000+

70 60 120 20 30

80 30

110 50 10 6 0

30 80 30 10 30

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

Need to complete 75 hours (3–4 weeks) of training to work as a nurse asst., plus pass an exam. Many tech colleges offer the training.

HS +1yr

Can complete 75 hours (3–4 wks.) of nurse aide training at many public technical colleges.

HS +1yr +2yr +3yr +4yr

1994: master's degree required
4-yr degree in Occ. Therapy
4-yr degree in PhysicalTherapy
4-yr degree in Rec. Therapy
1-2 yr Comm. or Tech. College

1 mo-2 yr (inten. care paramedic)
2-5 yrs training

Usually 2yr Comm. or Tech. Col
1-2 yr Comm. or Tech. College
2 yr Comm. or Tech. Col + OJT
1-2 yr Comm.or Tech. Col or OJT
OJT

Varies: OJT or 1 mo-2 yr school
1-2 yr Comm. or Tech. College
1-2 yr Comm. or Tech. College
1 mo-2 yr (inten. care paramedic)
OJT or 1 yr Technical College

"Tech college, or Tech Col. or TC" means that State Technical College training is available

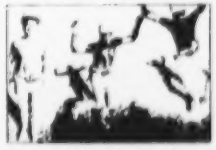
AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Job prospects are very good. Expansion of nursing homes should provide many new jobs. A nursing home association says that "there's a strong demand which will continue for some time (look at the want ads). There's a shortage throughout the state." A union says that "nursing homes especially are having trouble finding nursing assistants....Anyone who wants a job as a nurse aide can get one." Drawback: low pay.

The Minn. Home Care Assn. says that home health aides are needed statewide & that the job outlook for 5 to 8 years is excellent. *CityBusiness* has described the "outstanding growth ...of home health care...due to movement away from expensive stays in the hospital to much cheaper care at home." Home health aide is the 4th-fastest growing occupation in Minn. The negative: jobs may pay low wages & be part-time.



Poor Caution Fair Good Excellent

Fairly good. Baby-boomers' chances of strokes increase.
Excellent. More critical patients survive, so more therapy
Excellent
Urban competitive, rural OK. More elderly, more day care
Good. Pneumonia, bronchitis, emphysema in the elderly

Fair to good. Older people need more emergency service
Excellent in rural areas & inner city (because fewer doctors).

Quite good. Increasing scrutiny of medical records.
Quite good. Increasing number of surgeries performed
Fair to good. Older people spur demand for nuclear med
Fair to good. Increased number of neuro-diagnostic tests
Caution. Nurses will perform basic EKG procedures.

Good. Some shortage in Minnesota.
Very good. 3 schools list as likely to lead to related jobs
Very good. 2 schools list as likely to lead to related jobs
Fair to good.
Good

OJT means on-the-job training. "Comm. Col. means that State Community College training is available.

OFFICE CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
ACCOUNTANTS/ AUDITORS Accountants examine & analyze accounting records in order to give advice or to prepare statements. Also install or advise about financial systems which record costs & budgetary data.	20,670 people work as accountants & auditors in Minnesota.	Nine out of ten accountants & auditors earn over $11.25 /hr. (Robert Half Co. also does a survey that details national pay for specific specialties in accountg.)	One-half of all accountants earn more than $15.56 per hour. usually with experience.
PURCHASING AGENT & BUYER *Purchasing agents* buy equipment and supplies necessary for the operation of a company, an organization, or a factory. *Wholesale & retail buyers* purchase merchandise or commodities for *resale* to consumers.	4,450 people work as purchasing agents in Minnesota. 3,040 people work as wholesale buyers & retail store buyers.	Nine out of ten purchasing agents earn over $9.90 /hr. Nine out of ten wholesale buyers & retail store buyers earn over $8.00/hr.	One-half of all purchasing agents earn over $15.24 per hour, usually with experience. Half of all wholesale buyers & retail store buyers earn over $13.75.
PERSONNEL SPECIALISTS & EMPLOYMENT INTERVIEWERS *Personnel specialists* recruit, select, train employees, and may be involved in promotion, safety, compensation. *Employment interviewers* interview job seekers in an employment referral office and refer them to possible employers.	5,300 people have work as personnel specialists & 1,200 work as employment interviewers in Minnesota.	Nine out of ten personnel specialists earn over $9.20/hr. Nine out of 10 employment interviewers earn over $10.90/hr.	Half of all personnel specialists earn over $16/hr., and half of all employment interviewers earn over $16 per hr., usually with experience.
FOOD & LODGING MANAGER Food service & hotel/motel managers plan, organize, direct, control, or coordinate management activities of an organization that serves food & beverages &/or provides lodging & other accommodations.	10,200 people work as food service managers and hotel or motel managers in Minnesota.	Nine out of ten food service managers and hotel/motel managers earn over $6.50/hr. Depends on the size & type of the employer.	One-half of all food service managers and hotel/motel managers earn over $10 34/hr., usually with experience.

ENHANCE YOUR SKILLS IN THESE FIELDS WITH SHORT-TERM TRAINING.

SEE PAGES 68–72.

GROWTH RATE How fast this occupation is growing. (Percent increase from 1993 to 2001).	JOB OPENINGS How many job openings per year will be available for new workers (average till 2001)	TRAINING NEEDED How much full-time training is generally needed to enter this occupation?	AVAILABILITY OF JOBS What is the job market like for this occupation? How easy is it to find jobs?
Accounting & auditing are fields that have above-average growth rates. From 1993–2001, the number of accountants employed will increase by 18%.	Minnesota will need 760 new accountants & auditors yearly to 2001, to fill new positions and to replace retirees.	Most employers require a 4–yr college degree in accounting; some require master's. CPA's must pass tests. Chances for 2–yr degrees better outside Twin Cities area.	Very good outlook for 4-year graduates in accounting (ranked as *the #1 major* for job-getting by 4-year colleges), but quite a bit lower prospects for those with 2-year degrees. An accounting assn. says, "You really need four years training minimum nowadays. The profession is so much more complicated now—always new pronouncements, new tax laws, new ways businesses are operated, how businesses are organized, etc." Demand for cost accounting & internal auditing. See more, p. 54.
Purchasing is a field growing at a below-average rate of 5% from 1993–2001. Wholesale & retail buying is growing at an average rate of 8%.	Minnesota will need 110 new purchasing agents and 110 new wholesale buyers & retail store buyers yearly to 2001, to fill new positions.	*Purchasing agents* need a 4-yr degree in business or a 2-yr degree in purchasing at a community or tech college. *Buyer* is not an entry level job. Most start as assistant buyers. To fill asst. buyer positions, some cos. promote from within; some recruit college grads.	Decreasing prospects, due to the consolidation of buying departments resulting from mergers & due to increased use of automated systems. Best chances with a 4-year degree in business. *Purchasing:* A long-term decrease in job prospects. Low demand. Small companies will provide most jobs. *Buying:* More job-seekers than jobs, because many college grads are interested in buying. Persons with wholesale or retail experience, plus a degree, have best chances.
From 1993–2001, personnel has an above-average growth rate of 24%. Employment interviewing has an average growth rate of 15%.	Minnesota will need 230 new personnel specialists and 40 new employment interviewers yearly to 2001, to fill new positions and to replace retirees.	*Personnel jobs* require 4-yr degree in personnel or labor relations, *maybe* lib. arts. *Interviewer jobs* usually require 4–yrs, but *temporary* agencies may look at sales ability.	The personnel field has traditionally been very popular. Although a fair number of new jobs for personnel workers become available yearly, an abundant supply of qualified college graduates & experienced workers compete for jobs. *U. S. News & World Report* suggests higher demand for the *personnel* specialties of technical trainer, diversity manager, & team trainer. Most new jobs for *interviewers* are with temporary help agencies.
Food & lodging management has an above-average growth rate. From 1993 to 2001, the number of food & lodging mgrs. employed will increase 19%.	Minnesota will need 390 new food & lodging managers yearly to 2001, to fill new positions and to replace retirees.	Varying requirements: 1) Extensive, progressive food/hotel experience; 2) 4–yr. degree in food/hotel mgmt; or 3) 2 yr. degree + experience.	*Restaurant manager* may have the best job prospects of all management fields (the easiest mgmt. field to enter), and *hotel mgmt.* may have the second-best outlook. Four–year or 2–year degrees in restaurant or hotel mgmt. result in the best positions. One 4–year college states that hotel & restaurant mgmt. is one major that is highly likely to lead to related jobs & to jobs which pay relatively well. These are large occupations with high growth rates.

OFFICE CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
LOAN OFFICER AND COUNSELOR Evaluate & authorize applications for commercial or real estate loans and credit loans, or advise borrowers on financial status and methods of payments.	5,830 people are employed as loan officers in Minnesota.	Nine out of ten loan officers earn over $11.98/hr.	One-half of all loan officers earn over $16.75 per hour, usually with experience.
INSURANCE ADJUSTER Investigate and determine the amount of money an insurance company is liable for, concerning personal, casualty, or property loss or damages. Make settlement with claimants.	3,250 people are employed as insurance adjusters in Minnesota.	Nine out of ten insurance adjusters earn over $9.23 per hour.	One-half of all insurance adjusters earn over $14.94 per hour, usually with experience.
INSURANCE UNDERWRITERS & CLAIMS EXAMINERS *Underwriters* review *applications* for insurance to evaluate risk and determine acceptance. *Examiners* review *settled claims* to assure that proper methods were used.	2,180 people are employed as insurance underwriters and 810 as claims examiners in Minnesota.	Nine out of ten insurance underwriters earn over $13.53 /hr. (No salary information available for examiners.)	One-half of all insurance underwriters earn over $17.74/hr., usually with experience. (No salary information available for examiners.)
PARALEGALS Assist lawyers by doing legal research for lawsuits and by preparing legal documents.	1,600 people are employed as paralegals in Minnesota.	Nine out of ten paralegals earn over $10.53/hr.	One-half of all paralegals earn over $15.90/hr., usually with experience.

ENHANCE YOUR SKILLS IN THESE FIELDS WITH SHORT-TERM TRAINING.

SEE PAGES 68–72.

GROWTH RATE How fast this occupation is growing. (Percent increase from 1993 to 2001).	JOB OPENINGS How many job openings per year will be available for new workers (average till 2001)	TRAINING NEEDED How much full-time training is generally needed to enter this occupation?	AVAILABILITY OF JOBS What is the job market like for this occupation? How easy is it to find jobs?
Loan officer work has an above-average growth rate. From 1993–2001, the number of loan officers employed will increase by 20%.	Minnesota will need 220 new loan officers yearly to 2001, to fill new positions and to replace retirees.	Many employers require 2–yr or 4–yr degree; prefer major in business, finance, banking, or accounting, but lib. arts is possibility. Or experience in finance or collection agency.	Three big factors are affecting the demand for loan officers: ◆ Lower interest rates in mid-1995 are causing more loan activity, and this produces more jobs for loan officers (conversely, high interest rates means fewer jobs). ◆ But multiple bank mergers & acquisitions are resulting in the elimination of many positions in local banks. ◆ And large banks are automating loans so that customers apply by phone, again requiring fewer loan officers. Still, several banks say the outlook is fairly good.
Insurance adjusting has a very fast growth rate. From 1993–2001, the number of insurance adjusters employed will increase by 28%.	Minnesota will need 130 new insurance adjusters yearly to 2001, to fill new positions and to replace retirees.	Most employers require 4–yr degree, with courses in business, law, medicine. Others hire those knowing auto repair, building construction, medical information.	Opportunities should be fair to good. One large insurance company says that although there are not a lot of adjusters in Minnesota, their company's definitely increased hiring. But they also say that the job market for adjusters is "not bad, but not ideal either.... middle or a little above middle." They state that to enhance chances of obtaining a job, a person could come out of college with coursework in insurance & belong to an insurance fraternity.
Underwriter and claim examiner work has an average growth rate. From 1993 to 2001, the no. of claims examiners & underwriters will increase by 12%.	Minnesota will need 70 new insurance underwriters and 20 new claim examiners yearly to 2001, to fill new positions and to replace retirees.	Most employers require 4–year degree, in business or lib. arts. Others consider 2–yr degrees in insurance field. Some promote from clerical positions within the insurance co.	Fair chances for employment. Most jobs are in the Twin Cities, although at least one large insurance co. has laid off hundreds of employees in the recent past. Two other large companies indicate that most underwriter & examiner positions are filled from *within* their cos., because employees (many with college degrees) start in clerical jobs & move up. One company said that the job market is static, and expects this to continue into the future.
Paralegal is a field that's growing much faster than average. From 1993–2001, the number employed will increase 47%.	Despite the fast growth rate, Minnesota will need only 100 new paralegals yearly to 2001, to fill new positions and to replace retirees.	Usually need a 4–year paralegal degree, sometimes 2 years. But some legal secretaries are promoted, or even persons with tax or nursing background.	Although the number of new jobs is increasing very fast, so is the number of persons training for this career. Thus, competition for jobs continues. A 2-year school says "entry level is tough." Job openings increasingly require a 4–year degree plus extra training to gain certification. Definitely need good computer knowledge. While most work in large law firms, others at insurance cos., in trust depts., or with govt.

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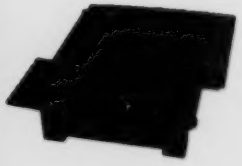
OFFICE CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES - LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES - MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
SECRETARY Performs office tasks & duties to help an office run smoothly. Duties usually include taking dictation, typing, scheduling appointments, word processing, computer operation.	51,020 people work as general office secretaries in Minnesota, making it one of the largest occupations.	Nine out of ten general office secretaries earn over $7.67/hr.	One-half of all general office secretaries earn over $10.75/hr., usually with experience.
 LEGAL SECRETARY Prepare legal papers and correspondence of a legal nature, such as summonses, complaints, motions, and subpoenas. Must be familiar with legal terminolgy, procedures and documents, as well as legal research.	4,240 people work as legal secretaries in Minnesota.	Nine out of ten legal secretaries earn over $10.90/hr.	One-half of all legal secretaries earn over $14.14 per hour, usually with experience.
MEDICAL SECRETARY Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include taking dictation, & compiling & typing medical charts, reports, & correspondence.	5,180 people work as medical secretaries in Minnesota.	Nine out of ten medical secretaries earn over $7.40/hr.	One-half of all medical secretaries earn over $9.80 per hour, usually with experience.
 **RECEPTIONIST & SWITCHBOARD OPERATOR** Greets customers & other visitors, determines their needs, and refers callers to the person who can help them. May type, file, sort mail, or operate a switchboard.	23,020 people work as receptionists in Minnesota and 4,370 work as switchboard operators.	Nine out of ten receptionists and switchboard operators make over $5.95 /hr.	One-half of all receptionists and switchboard operators earn over $7.90/hr., usually with experience.

SEE PAGES 68–72.

GROWTH RATE How fast this occupation is growing. (Percent increase from 1993 to 2001).	JOB OPENINGS How many job openings per year will be available for new workers (average till 2001)	TRAINING NEEDED How much full-time training is generally needed to enter this occupation?	AVAILABILITY OF JOBS What is the job market like for this occupation? How easy is it to find jobs?
From 1993 to 2001, the no. of general office secretaries employed will go up by only 2%, a below-average growth rate.	Despite a slow growth rate, 1,230 new office secretaries will be needed yearly till 2001 in Minnesota, to fill new positions and to replace retirees.	H.S. grad/GED. Employers prefer 9 mo. training at technical schools or community colleges, typing 60 wpm, & shorthand 90 wpm.	Confusing outlook. Because the secretarial field is very large, there are many job openings, but changes are occurring which increase competition. Automation allows fewer people to do more work & schools provide many candidates for existing jobs. On one hand, nine 2-year colleges name *secretary* as a program *most* likely to lead to jobs; on the other hand, eight schools list *secretary* as *least* likely. Still, chances are excellent if *well qualified*. Word processing & computer techniques are important.
From 1993–2001, the number of legal secretaries employed will go up by 30%, a very fast growth rate.	Minnesota will need 300 new legal secretaries yearly to 2001, to fill new positions and to replace retirees.	H.S. grad/GED. Employers prefer 9 mo. at technical or community colleges, typing 60 wpm, shorthand 90 wpm, know legal terminology & forms.	The job outlook is fairly good. The legal secretary field is not only growing very fast in Minnesota, but also will have a large number of new jobs from 1993 to 2001. Rapid growth is also projected nationally for the number of jobs for legal secretaries. A negative note: One technical college lists legal secretary as a field *least* likely to lead to related jobs. A positive note: pay is very good compared to other clerical jobs.
From 1993–2001, the number of medical secretaries employed will go up by 21%, an above-average growth rate.	Minnesota will need 200 new medical secretaries yearly to 2001, to fill new positions and to replace retirees.	H.S. grad/GED. Employers prefer 9 months at technical or community colleges, typing 60 wpm, shorthand 90 wpm, know medical terminology, forms.	Nationally there is a projected rapid growth in the number of jobs for medical secretaries. Two technical & community colleges list medical secretary as a field *most* likely to lead to related jobs.
Although the receptionist field has an above-average growth rate of 18% predicted, the number of switchboard operators will *decrease* by 11%.	Minnesota will need 900 new receptionists yearly to 2001, to fill new positions and to replace retirees, & 60 new switchboard opertrs. to replace retirees.	H.S. graduation or GED, usually with typing & other office courses. Extra 9 months training is available at technical schools.	Job opportunities should be plentiful, because the receptionist field is growing fast and the turnover rate is high, as many receptionists leave their jobs to find other employment. Because many receptionists also perform secretarial duties, it's important for them to obtain good typing and computer skills, in addition to developing strong interpersonal and communication skills. A negative note: Four technical colleges list receptionist as a field *least* likely to lead to good pay.

OFFICE CAREERS

JOB TITLE & DUTIES	SIZE OF OCCUPATION	SALARIES – LOW RANGE	SALARIES – MID RANGE
What kind of work do the people in this occupation do on the job.	How many paying jobs exist in this occupation in Minnesota (1993).	Nine out of ten workers in this occupation earn at least this amount per hour (1994).	Half of the workers in this occupation earn at least this amount per hour (1994).

ACCOUNTING CLERK

Bookkeeping & accounting clerks compute, classify, and record numerical data to keep sets of financial records complete. Perform routine calculating, posting, & verifying duties.

Over 43,280 people work as accounting and bookkeeping clerks in Minnesota, making it one of the largest occupations.

0 10,000 20,000 30,000+

Nine out of ten accounting and bookkeeping clerks make over $7.00/hr.

0 $5 $10 $15 $20+

0 $5 $10

One-half of all accounting and bookkeeping clerks make over $10.10/hr.

0 $5 $10 $15

GENERAL OFFICE CLERK**

**See note on page 43.

Some do routine office work such as posting, filing, & sorting. Others do tasks which might include light typing & operating office machines. Others with 1-2 yrs experience do difficult, specialized work.

51,760 people work as general office clerks in Minnesota, making it one of the largest occupations.

0 10,000 20,000 30,000+

Nine out of ten office clerks make over $6.50/hr.

0 $5 $10

One-half of all office clerks earn over $9.40 per hour usually with experience.

0 $5 $10

HUMAN SERVICES WORKERS

Assist social workers & case-workers with dev-eloping, organizing, & conducting programs to prevent & resolve problems relevant to substance abuse & human relationships.

6,680 people work as human services workers in Minnesota.

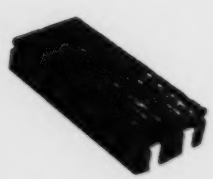
0 10,000

Nine out of ten human services workers earn over $5.75/hr.

0 $5 $10

One-half of all human services workers earn over $10.60/hr., usually with experience.

0 $5 $10 $15



TEACHER AIDE

Under the guidance of a teacher, perform such duties as arranging work materials, supervising students at play, operating audio-visual equipment. Might at times directly instruct students.

13,500 people work as teacher aides & educational assistants in Minnesota.

0 10,000

Nine out of ten teacher aides earn more than $5.94/hour.

0 $5 $10

One-half of all teacher aides earn over about $8.42 per hour, usually with experience.

0 $5 $10

SEE PAGES 68–76.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

Job growth for accounting clerks is below-average. From 1993–2001, the number employed will increase by only 1%.

0% 5%

New job growth for office clerks is average. From 1993-2001, their numbers will increase by 14%.

0% 5% 10% 15%

Human services worker is a field that's growing very, very fast. From 1993-2001, the number of human services workers will increase by 69%.

0% 5% 10% 15% 20%+

The teacher aide field has an above- average growth rate. From 1993-2001, the number of aides employed will increase by 20%.

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Despite a slow growth rate, 850 new bookkeeping and accounting clerks will be needed yearly in Minnesota, mostly to replace retirees.

0 500 1000

Minnesota will need 1,830 new general office clerks per year till 2001, to fill new positions and to replace retirees.

0 500 1000 1500 2000+

Minnesota will need 640 new human services workers yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 660 new teacher aides each year to 2001, to fill new positions and to replace retirees.

0 500 1000

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

H.S. grad/GED. Employers prefer 9–10 month accounting clerk training at tech schools or at community colleges.

HS +1yr

H.S. graduation or GED, usually with typing & other office courses.

HS +1yr

Usually requires a 2-yr program at community college or a 4-yr degree in a related field.

HS +1yr +2yr +3yr +4yr

H.S. graduation or GED. Some technical colleges and community colleges offer 2-year teacher aide training programs.

HS +1yr +2yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Poor Caution Fair Good

Although some schools say job market is good, others say it's poor and add:
◆ A lot of jobs, but very competitive.
◆ There are too many accounting grads from tech schools, universities, and community colleges. ◆ Hard job market. Lots of 2-year & 4-year grads looking at same jobs. Four technical colleges list *accounting clerk* as a field ***least*** likely to lead to jobs. One employer said that "personal computers...are making [some of] these positions obsolete."

Opportunities should be quite favorable because, of all occupations, *general office clerk* ranks #3 in having the greatest number of new jobs predicted from 1993 to 2001. But the field also *attracts* many workers. In a 1994 survey, businesses were seeing an *oversupply of clerical workers.* A union rep says that, to ensure a job, clerks should know word processing & spreadsheets, and that job-seekers without computer skills will have a harder time finding work. High turnover.

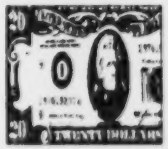
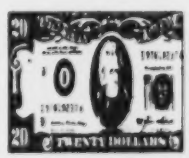
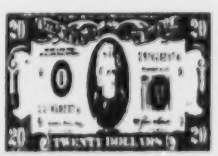
Poor Caution Fair Good Excellent

Human services worker will be *the #1* fastest-growing occupation in Minnesota from 1993 to 2001. During that period, it will also have a large number of new jobs. The reason: There'll be an increased need for social work & some of that need will be met through greater use of *human services workers* to assist social workers. Three 2-year colleges list human services as a field *most* likely to lead to related jobs.

Poor Caution Fair Good Excellent

Prospects should be good. A school employees union says "there's much promise now & in the future for teacher aides—our union's biggest growth area." Also, chances are "excellent" or "very good" for students in teacher aide programs at tech & community colleges. Some teacher aides are licensed teachers trying to get a foot in the door. But aides are usually trained by a school district, so special schooling isn't always needed. Spanish helps in some areas.

TECHNICAL CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
COMPUTER PROGRAMMER Working from charts or diagrams, writes detailed instructions to the computer system in coded language. Analyzes programming requests.	12,700 people work as computer programmers in Minnesota.	Nine out of ten computer programmers earn over $10.61/hr. (Source EDP Co. also does a survey that details national pay for specific specialties in progrmg.)	One-half of all computer programmers earn over $15.36/hr., usually with experience. 
SYSTEMS ANALYST Computer systems analysts analyze business, scientific, and technical problems for application to electronic data processing systems.	9,900 people work as computer systems analysts in Minnesota.	Nine out of ten systems analysts earn over $15.70 per hour. (Source EDP Co. also does a survey that details nat'l. pay for specific specialties in computers.)	One-half of all systems analyst earn more than $22.90 per hour, usually with experience.
COMPUTER & SOFTWARE ENGINEER Research, design, & develop computer hardware & software systems, applying principles & techniques of computer science, engineering, & math analysis.	8,350 people are employed as computer engineers in Minnesota.	Nine out of ten *computer* engineers earn over $11.20 /hr. Nine out of ten *software* engineers earn over $17.20 /hr. 	One-half of all *computer* engineers earn over $21.50, usually with experience. One-half of all *software* engineers earn over $23.80, usually with experience.
ELECTRICAL ENGINEER Design, develop, test, and supervise the manufacture or installation of electrical and electronic equipment, components, or systems for commercial, industrial, military, or scientific use.	6,800 people are employed as electrical engineers in Minnesota.	Nine out of ten electrical engineers earn over $17.00 per hr.	One-half of all electrical engineers earn over $23.10, usually with experience. 

MORE ABOUT COMPUTER FIELDS ON PAGE 52-54.

ENHANCE YOUR COMPUTER SKILLS WITH SHORT-TERM TRAINING, P. 72, PP. 68-71, 74-75.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

Programming is a field that's growing at an average rate. From 1993–2001, the number of programmers employed will increase 14%.

0% 5% 10% 15%

Systems analysis is a field that's growing at a very fast rate. From 1993 to 2001, the number of analysts employed will increase 65%.

0% 5% 10% 15% 20%+

Computer engineering has a very fast growth rate. From 1993 to 2001, the number of computer engineers employed will increase by 67%.

0% 5% 10% 15% 20%+

Electrical engineering has an average growth rate. From 1993 to 2001, the number of electrical engineers employed will increase by 13%.

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 510 new programmers yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 850 new systems analysts yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 740 new computer engineers yearly to 2001, to take new positions and to replace retirees.

0 500

Minnesota will need 250 new electrical engineers yearly to 2001, to take new positions and to replace retirees.

0 500

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

Probably need a 4-yr degree in computer science; but shorter training *may* be enough if experienced in fields like accounting or inventory control.

HS +1yr +2yr +3yr +4yr

4-yr. degree or a master's in computer science, math, engineering, accounting; or advance from programmer positions.

HS +1yr +2yr +3yr +4yr

Requires a 4-yr. degree in software engineering, computer science, or computer engineering.

HS +1yr +2yr +3yr +4yr

Requires a 4-yr. degree in electrical engineering; in some cases a master's is preferred. In addition, electrical engineers need to pass licensing exam after work experience.

HS +1yr +2yr +3yr +4yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Although programming is not expected to grow as rapidly as in the past, prospects are good for the next few years, according to a data processing assn. Another source says that "to remain competitive in today's job market, computer professionals must... keep up with the latest technology." It may help to get training in: ◆ Newer languages such as C & C++; ◆ Computer networking; ◆ UNIX; ◆ Personal computer software. See more on pp. 52-54.

Poor Caution Fair Good Excellent

Job outlook is very favorable & should continue so for next few years. When 4–year colleges were asked in Aug 95 to list which majors were most likely to lead to jobs, ten colleges listed *computer science* (2nd highest of all majors) & four listed *mgmt. information systems.* Also, salaries for graduates in these fields are among the highest. Nationally, *U. S. News & World Report* named systems analyst as a "Hot Job Track." More on pp. 52-54.

Poor Caution Fair Good Excellent

The U of M Institute of Technology says that this is "the hottest area of all engineering! The job market is excellent for software design. Lots of companies are looking for computer science majors, but since there are not enough to fill jobs, software engineers are able to fill these positions." The university expects this demand to continue in the future. *U. S. News & World Report* (Oct 94) named software development, computer scientist & computer engineer as "Hot Job Tracks."

Long term: generally good prospects for employment, despite a down period in hiring in the past couple of years. Cutbacks in defense spending have resulted in layoffs of electrical engineers, but the field has made a comeback. The U of M Institute of Technology (I.T.) says "the job market for 4–year E.E. grads is strong & steady—it's one of the most likely majors to lead to employment." Nationally, *U. S. News & World Report* named electrical engineer as one of its "20 Hot Job Tracks."

More Technical Careers

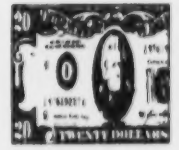
JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
MECHANICAL ENGINEER Plan & design tools, engines, machines, & other mechanical equipment. Oversee installation, operation, maintenance, & repair of such equipment as centralized heat, gas, and water systems.	4,000 people are employed as mechanical engineers in Minnesota.	Nine out of ten mechanical engineers earn over $13.70 per hr.	One-half of all mechanical engineers earn over $20.40/hr., usually with experience.
ELECTRONIC TECH Apply electrical and electronic theory to design, build, test, repair, and modify developmental or production electrical equipment in industrial or commercial plants. Directed by engineering staff.	10,390 people are employed as electronic & electrical technicians in Minnesota.	Nine out of ten electrical & electronic technicians earn over $10.00/hr.	One-half of all electrical & electronic technicians earn over $14.76 per hour, usually with experience.
DRAFTER Prepare clear, complete, and accurate working plans and detail drawings from rough or detailed sketches or notes, for engineering or manufacturing purposes according to specified dimensions.	6,140 people are employed as drafters in Minnesota.	Nine out of ten drafters earn over $9.21/hr.	One-half of all drafters earn over $13.07/hr., usually with experience.
LAB TECHNICIAN Conduct chemical, biological or physical lab tests. Assist in making lab analyses for research and development of new products, new processes, quality control, or environmental standards.	4,570 people in Minnesota are employed as technicians in physical and life sciences.	Nine out of ten lab techs earn over $6.98/hr. (based on Minn. salary survey of chemical, biological, food, & agric. lab techs).	Half of all lab techs earn over $11.06/hr., usually with exp. (based on Minn. salary survey of chem., biol., food, & agric. lab techs)

SEE PAGES 68–75.

GROWTH RATE How fast this occupation is growing. (Percent increase from 1993 to 2001).	JOB OPENINGS How many job openings per year will be available for new workers (average till 2001)	TRAINING NEEDED How much full-time training is generally needed to enter this occupation?	AVAILABILITY OF JOBS What is the job market like for this occupation? How easy is it to find jobs?
Mechanical engineering has an above-average growth rate. From 1993 to 2001, the no. of mechanical engineers employed will increase by 21%.	Minnesota will need 190 new mechanical engineers yearly to 2001, to take new positions and to replace retirees.	Requires a 4-yr. degree in mechanical engineering. In addition, mechanical engineers need to pass a licensing exam after work experience.	Prospects for jobs are favorable. The U of M says the job market is always very good; this is the most stable of the engineering professions. Long-term prospects are strong also. The U of M suggests enhancing job chances by having an internship, getting extra computer training (since more cooperation with electrical engineers is now common), & balancing technical skills with people skills (many end up in supervisory positions very quickly).
Electrical & electronic technician work has an average growth rate. The no. of electronic technicians will increase by 16%.	Minnesota will need 330 new electrical & electronic technicians yearly to 2001, to fill new positions and to replace retirees.	Usual requirement is 2 years of training in electronics, available at tech colleges & other schools.	Prospects are looking up. In recent years there's been much competition for jobs —layoffs in the computer industry have meant many qualified job-seekers are available. However, this appears to be turning around. Six tech colleges list electronic technician as a program *most likely* to lead to jobs. Many schools & businesses see prospects for five years as "excellent" or "good." Also, three tech colleges say *telecommunication tech* has high placement. But two rate *electrical technician* low. And one rates *bio-medical tech* low (see p. 51).
Drafting work has an average growth rate. From 1993 to 2001, the no. of drafters employed will increase by 8%.	Minnesota will need 240 new drafters yearly to 2001, to fill new positions and to replace retirees.	Most employers want a 2-yr tech college drafting degree. A few hire H.S. grads to do tracing, if they've taken drafting courses.	Good chances for jobs. Depends on the workload of both construction & manufacturers of complicated products. A professional assn. says *there will be jobs*, but training must focus on computer-aided design. Four tech and comm. colleges list *drafter* as *highly likely* to lead to jobs. Some schools say placement appears better in 1995 than 1994. However, in the long run, computer-aided design means less demand, because
Lab tech work in physical and life sciences has an above-average growth rate. The no. of lab techs will increase by 21% by 2001.	Minn. will need 210 new lab techs yearly to 2001 in physical and life sciences, to fill new positions and to replace retirees.	Most employers want a 2-yr lab degree from community or tech college. Some want 4-yr degree. A few hire H.S. grads.	Fairly good outlook, especially in food science, agriculture, chemistry, engineering, environment, & biology. Job prospects are best with experience on the equipment currently in use in industrial and government labs. Schools' comments: ◆ Majority of jobs are with cos. who do lab & engineering consulting work on contract for another company; not many grads get jobs with large companies anymore. ◆ Environmental tech has really been pretty strong.

BEST COPY AVAILABLE

ART & WRITING CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
DESIGNERS Design or arrange objects and materials to achieve artistic or decorative affects. Includes layout artists, graphic designers, art directors, industrial designers (such as product design), and clothes designers.	3,810 people are employed as designers in Minnesota. 	Nine out of ten designers earn over $7.00/hr. Display wkrs: $6. 	One-half of all designers earn over $16.50/hr., usually with experience. Display wkrs: $7.
 COMMERCIAL ARTISTS Design and execute artwork to illustrate subject matter or promote public consumption of materials, products, or services. Artists include commercial artists, keyliners, illustrators, paste–up artists, and artistic painters.	4,200 people are employed as commercial artists in Minnesota. 	Nine out of ten commercial artists earn over $12.00/hr. 	One-half of all commercial artists earn over $15.00/hour, usually with experience.
WRITERS & EDITORS **Writers, Editors, Public Relations Specialists, Reporters** Originate and prepare written material such as stories, news items, advertisements, scripts, and other material. Coordinate, edit, and analyze written material.	An estimated 8,370 people are employed as writers, tech writers, editors, public relations specialists, & reporters in Minnesota. 	Nine out of ten writers, editors, public relations specialists, & reporters earn over $9.91/hr. 	One-half of all writers, editors, public relations specialists, & reporters earn over $15.54/hr. usually with experience.
 TECHNICAL WRITER Write or edit technical materials, such as equipment manuals, appendices, and operating and maintenance instructions.	An estimated 1,500 to 2,000 people are employed as tech writers in Minn. (Also included in above figures for writers & editors.) 	Nine out of ten technical writers earn over $10.36 per hr. 	One-half of all technical writers earn more than $15.46/hour usually with experience. 

SEE PAGES 68–72.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

Designer work has an average growth rate. From 1993 to 2001, the number of designers employed will increase by 13%. Others: 15%.

0% 5% 10% 15%

Commercial art has an average growth rate. From 1993–2001, the number of commercial artists employed will increase by 16%.

0% 5% 10% 15% 20%+

Work for writers, editors, public relations specialists, & reporters has an average growth rate. From 1993–2001, the number of writers will increase by 17%.

0% 5% 10% 15% 20%+

From 1993–2001, technical writing has an average growth rate. The number of technical writers will increase by an estimated 17%.

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 120 new designers yearly to 2001, to fill new positions and to replace retirees.

0 500

Minnesota will need 160 new commercial artists yearly to 2001, to fill new positions and to replace retirees.

0 500

Minnesota will need an estimated 290 new writers, editors, public relations specialists, & reporters yearly to 2001, to fill new positions and to replace retirees.

0 500

Minnesota will need 50-70 new technical writers yearly to 2001. (These are also included in above figures for writers & editors.)

0 500

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

Requires 2 to 4 year degree in design or commercial art. Graphic design: 2–yr tech college or 4–yr. design degree. Industrial design: 4 yrs. in indust. design.

HS +1yr +2yr +3yr +4yr

Some positions require a 2–year degree in design or commercial art, some require a 4–year degree.

HS +1yr +2yr +3yr +4yr

At least a 4–yr degree in journalism; but some jobs require grad work. Helps to have had a writing internship.

HS +1yr +2yr +3yr +4yr

Usually need at least a 4–yr degree in a technical field &/or journalism; but some jobs require grad work. Major in technical communication is a plus.

HS +1yr +2yr +3yr +4yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Keen competition in almost all specialties. Many talented persons are attracted to these fields. It is difficult to keep straight the distinction between *design & commercial art*, & between *commercial & fine* art. But it's crucial for almost all persons who want to work in art fields to know they need strong training & background in *commercial* art & design (computerized) & in printing (computerized), & that a college degree in "art" is rarely, by itself, an entry into this field (unless a person accumulates some serious, lengthy, technical training in commercial art—and then, even with training, it is still very competitive). Because design is increasingly done by computer, one focus of training should be *computer* design. However, a printing union official says that workers with desktop publishing skills "seem to be a nickel a dozen, except for the very highly skilled. There's little demand for entry level people." Nationally, a field with possibly higher demand is *informational-graphics designer* (*US News & World Report*, Oct 31 94).

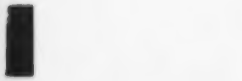
Keenly competitive because so many people are attracted to the writing field. Chances best at small town & suburban newspapers & small radio or TV stations. Outlook is better in technical writing. Nationally, all writing fields are hard to enter. For *reporters*, heavy competition will continue at large newspapers, at TV & radio stations, & on national magazines. It may help somewhat to become skilled at using data bases & other computer techniques. Internships are advised.

Job outlook is better for technical writers than for other writers. This field has *not great*, but *fair* prospects. Talented writers who specialize in scientific or technical subjects have an advantage. Experience in industry is valuable, again in science & technology. Having participated in an internship is a plus. Also, it's wise to learn to use databases &/computer techniques.

Poor Caution Fair Good Excellent

FOOD SERVICE, PERSONAL SERVICE,

JOB TITLE & DUTIES	SIZE OF OCCUPATION	SALARIES – LOW RANGE	SALARIES – MID RANGE
What kind of work do the people in this occupation do on the job.	How many paying jobs exist in this occupation in Minnesota (1993).	Nine out of ten workers in this occupation earn at least this amount per hour (1994).	Half of the workers in this occupation earn at least this amount per hour (1994).



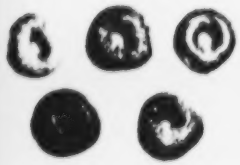
COOKS IN RESTAURANTS, CAFETERIAS, & INSTITUTIONS

Prepare, season, & cook various soups, meats, vegetables, desserts, and other food for the public.

20,890 people work as cooks in Minnesota: 14,610 in restaurants & 6,280 in institutions & cafeterias.

Nine out of ten cooks earn over $5.50 per hour.

One-half of all cooks earn over $7.50, usually with experience.



BAKER BREAD & PASTRY

Mix and bake ingredients according to recipes to produce bread, pastries, and other baked goods, for consumption on premises or for sale as specialty baked goods.

4,970 people are employed as bakers: 4,150 baking bread & pastry for retail/wholesale trade, 820 in manufacturing.

Nine out of ten bakers earn over $4.75/hr.

One-half of all bakers earn over $7.80 , usually with experience.

HAIRDRESSER & COSMETOLOGIST

Hairdressers & cosmetologists provide beauty services for customers. Cut & treat hair & scalp, apply makeup, suggest hair styles.

12,960 people are employed as hairdressers and cosmetologists in Minnesota.

Salaries vary greatly, but nine out of ten hairdressers earn over $4.25 per hr. + tips.

One-half of all hairdressers earn over $4.25 per hour + tips, with experience.

CORRECTION OFFICER

Correction officers and jailers guard inmates in penal or rehabilitative institutions in accordance with established regulations and procedures.

3,130 people are employed as correction officers and jailers in Minnesota.

Nine out of ten correction officers & jailers earn more than $10.50/hr.

One-half of all correction officers & jailers earn more than $14.10/hour, usually with experience.

Police officer	5,780	$13.35	$18.00
Fire fighter	2,160	$5.00	$9.00
Flight attendant	??2000	??$7.00	??$10.00-$12.00

52

53

& PROTECTIVE SERVICE WORKERS

GROWTH RATE	JOB OPENINGS	TRAINING NEEDED	AVAILABILITY OF JOBS
How fast this occupation is growing. (Percent increase from 1993 to 2001).	How many job openings per year will be available for new workers (average till 2001)	How much full-time training is generally needed to enter this occupation?	What is the job market like for this occupation? How easy is it to find jobs?
0% 5% 10% 15% 20%+	0 500 1000 1500 2000+	HS +1yr +2yr +3yr +4yr	Poor Caution Fair Good Excellent
Cooking has an above-average growth rate. The no. of cooks will rise 18%. (24% in restaurants, & 5% in cafeterias & institutions.)	Minnesota will need 1,040 new cooks yearly to 2001, to fill new positions and to replace retirees (830/yr. in restaurants).	To become a dinner cook or chef, need either training at technical college (10–20 mos), or apprenticeship (on-the-job).	Very good outlook. Rapid growth in restaurants, & fairly fast in nursing homes & health care, but slower in public schools. Cooking is not only a fast-growing field, but also will have a large number of new jobs till 2001. Plentiful job openings because many workers leave this field to seek other jobs. But generally low pay.
Baking has above-average growth. From 1993–2001, the no. of bakers employed will increase 22%, mostly in the Twin Cities. (Only 5% mfg.)	Minnesota will need 270 new bakers yearly to 2001, to fill new positions and to replace retirees (240/year are needed in retail & wholesale; only 30 in mfg.).	H.S. desirable, but not always necessary. Training available in various ways: On-the-job Apprenticeship Tech college Military	Job prospects are fair to good. Quite good in restaurants and in smaller, storefront bakeries, especially for trained specialty bread bakers. But in the large-scale manufacture of baked goods, the outlook is only fair. People seeking work in factory settings, baking large quantities of breads, cakes, & sweet rolls, will have a harder time finding jobs.
Hairdressing is growing at an above-average rate. From 1993–2001, the number of jobs available will increase 20%.	Minnesota will need 490 new hairdressers & cosmetologists yearly to 2001, to fill new jobs & to replace retirees.	Training for cosmetologists: 9–10 mos. at private schools or public tech colleges. Also need to pass license test.	Job prospects are very favorable. Nail technician (*manicurist*) is an especially fast-growing specialty. Another growing field is *skin-care*. According to a cosmetologists association, the job outlook for the next 5 to 8 years is "great," if a person gets licensed, then stays in the field long enough to build clientele.
New job growth for correction officers & jailers is very high. From 1993-2001, the number employed will increase by 43%.	Minnesota will need 270 new correction officers and jailers each year to 2001, to fill new positions and to replace retirees.	H.S. grad/GED, 21 yrs. old. Some employers want 2-year training program. Expect drug-screening & a background check.	The correction officer field is not only growing very fast, but will also have a large number of new jobs till 2001. A union official says that present job availability (Oct 95) is excellent & anticipates the same for the next 5-8 years. Twin Cities jail staffs have greatly increased in the past ten years. A new private prison was recently built in Appleton. Also a proposed new prison in St. Cloud would add many jobs.
10%	270	Community College or Tech. Coll., 2yr	Keen competition. Some improvement next 5 yrs due to retirements
12%	100	HS grad, health & physical exam	Keen competition
Nat'l. very high	?? ??	2yr. College + WorkExp.	Keen competition

MECHANICAL CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
 MACHINE MECHANIC & MILLWRIGHT Machinery mechanics repair & maintain industrial machines which are used in factory production, processing, printing, etc. Millwrights install, move & repair machinery & heavy equipment.	7,780 people work in these two occupations in Minnesota: 6,520 as industrial machine mechanics, 1,260 as millwrights 0 10,000	Nine out of ten workers in these two occupations earn over $8.75 per hour. Mechanics: $9.90/hr. Millwrights: 7.00/hr. 0 $5 $10 $15 $20+ 0 $5 $10	One-half of all workers in these two occupations earn over $13.50 per hour. Mechanics: $13.65/hr. Millwrights: $15.10/hr. 0 $5 $10 $15 $20+ 0 $5 $10 $15
AUTO MECHANIC Adjust, repair, and overhaul automotive vehicles. May have specialty: brakes, transmissions, front-end.	13,510 people are employed as automotive mechanics in Minnesota. 0 10,000 20,000	Nine out of ten automotive mechanics earn over $9.46/hr. 0 $5 $10	One-half of all automotive mechanics make over $13.06 /hr., usually with experience. 0 $5 $10 $15
 OTHER VEHICLE MECHANICS **Auto Body Mechanics** **Diesel, Bus, & Truck Mechanics** **Heavy Equipment Mechanics** **Farm Equipment Mechanics** **Aircraft Mechanics** Adjust and repair vehicles.	13,130 people work as auto body, bus & truck mechanics, etc. in Minnesota. AutoBody 3,980 Bus-Truck 4,690 Heavy Eq. 2,740 FarmEq. 1,720 0 10,000 20,000	Nine out of ten auto body, bus & truck mechanics, etc. earn more than $9.36/hr. AutoBody $8.50 Bus-Truck $9.00 Heavy Eq.$11.42 Farm Eq. $8.00 0 $5 $10	Half of all these mechanics make over $14.47/ hr., usually with experience. AutoBody$12.90 Bus-Truck$13.93 Heavy eq.:$15.31 Farm Eq.: $10.00 0 $5 $10 $15

OTHER VEHICLE MECHANICS, JOB AVAILABILITY
(Continued from last column, next page.)

◆ (***Auto body*** *continued*): Nevertheless, *auto body* is listed by 3 tech colleges as a field *most* likely to lead to jobs, but it's also listed by 3 tech colleges as a field *least* likely to lead to jobs which pay relatively well. The amount of work depends on the weather: if it's not raining or snowing, then there's not so much work.

◆ ***Diesel mechanic:*** For those who finish training, jobs are plentiful. A mechanics union says: "Good prospects for qualified mechanics (it's wise to specialize in one engine such as Detroit, Caterpillar, Cummins). It's **heavy work** which can cause health problems as a mechanic gets older, and also the pollution that you get when you start up a diesel after 2 days in the shop is tremendous, breathing that smoke, etc. Cost of tools is very high, because diesel engines have so many more parts than auto engines." For workers outside the Twin Cities area, a union says chances of getting a job are good, but workers should try to work for a fleet, as union wages are higher. One technical college listed diesel mechanic as a field most likely to lead to jobs.

◆ ***Truck mechanics:*** A mechanics union says: "The outlook is good, especially for power train specialists (that is, transmission & rear end).
If working outside Twin Cities area, mechanics should try to get into trucking fleet, because wages are generally lower where there is no union."
Two technical schools list *truck mechanic* as one of their programs most likely to lead to jobs, and two say *truck mechanic* as one of their programs most likely to lead to jobs which pay relatively well.

INDUSTRIAL MACHINE, AUTO, AUTO BODY, BUS & TRUCK, HEAVY EQUIPMENT, FARM EQUIPMENT, AIRCRAFT

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

These two fields have a below-average growth rate. From 1993 to 2001, the no. of jobs will go up only 4%. (4% mechanics & 7% millwrights.)

0% 5% 10%

New job growth for mechanics is average. From 1993–2001, the number of mechanics employed will increase by 13%.

0% 5% 10% 15%

As a group, these fields will grow at an average rate of 9%. But the rate of each is different: Auto body: 17% Bus/Truck: 11% Farm Equip: 1% Heavy Eqp: -2%

0% 5% 10% 15%

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 230 new workers in these fields yearly, to fill new job openings and to replace retirees. (180 mechanics & 50 millwrights.)

0 500

Minnesota will need 590 new automotive mechanics each year to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 480 new mechanics every year till 2001.

Auto body: 180
Bus/Truck: 180
Farm Equip: 80
Heavy Equip: 40

0 500

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

Training in these fields at technical colleges generally takes 18–24 mos. However, most jobs are filled thru a bid system based on seniority & experience.

HS +1yr +2yr

Some automotive mechanics train at technical colleges (18–20 mos.). Others learn through dealership apprenticeships. Very few gas stations train mechanics.

HS +1yr +2yr

Training time at tech colleges: Auto body: 9-18 Truck:18-24 mos Farm Equip: 20 Heavy Equip:18 Aircraft: 22 mos. Apprenticeships available too (but not for aircraft).

HS +1yr +2yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Job outlook is average. Unions say that best job prospects are for those trained in electronic repair (CNC—computer numerical control). Nationally, the number of jobs for machinery repairers will *decrease* till 2005 as more factories use automated production equipment that requires less repair than existing machines. In Minnesota, a union says, when job openings occur, they're usually filled by workers inside a company. Still, two tech colleges say *maint. mechanics* have very good prospects.

For those who finish technical college training, job prospects are very good, especially with electronics. Ten technical colleges list *auto mechanic* as one of their programs most likely to lead to jobs. Persons with little or incomplete training will face strong competition. A union says the job outlook is "good for qualified mechanics, excellent for transmission specialists." Most new jobs will be in repair shops & car dealerships.

Auto Body: Good outlook for well-trained auto body mechanics. However, a mechanics union says that, because of the increase in the number of very large auto body shops, small shops have closed down and car dealers have closed their body shops. Therefore, very few auto body people are in union shops now, wages have gone down, and there are not nearly the retirement & insurance benefits there used to be.

(*Other mechanics* continued in column 1, bottom of previous page)

◆ ***Farm Equipment Mechanics:*** Very few new jobs in farm equipment repair will be produced in Minnesota from 1993 to 2001. Farmland consolidation & more efficient farm practices will hold down demand, but the tendency of farmers to make fewer of their own repairs will increase it. The result will be almost zero or very little growth. Prospects should be best for people who complete formal training in farm equipmt. repair or diesel mechanics.

◆ ***Heavy Equipment Mechanics:*** An actual *decrease* in the number of jobs for mobile heavy equipment mechanics is predicted in Minnesota from 1993 to 2001. Prospects should be best for people who complete formal training programs in diesel or heavy equipment mechanics.

◆ ***Aircraft mechanic:*** An airline union says that "the outlook for airline mechanics is still fair to poor in Minnesota. It's better in the southeast and southwest U.S. where there are new startup air companies, but those companies also pay lower nonunion wages—wages are half as high as here.... The outlook is better here for machinists & plant (or facility) maintenance mechanics—one Minnesota airline has a big machine shop & also has been hiring more maintenance mechanics (that is, they start maintaining buildings, vehicles, and heating & cooling systems and can eventually hope to move into those aircraft maintenance positions which don't require licensing).... There are *not* good job prospects for airplane mechanics with little experience. *Poor* chance for a job coming out of training right now. What would improve job chances? A lot of well-rounded maintenance experience .... There's a glut of airline mechanics around the country." National predictions point to a slower than average growth in the number of jobs due to productivity gains resulting from greater use of automated inventory control and modular systems which speed repairs and parts replacement. Prospects are likely to be best in general aviation.

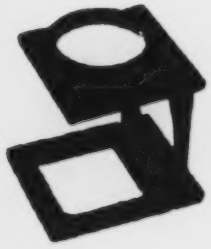
PRECISION MACHINE CAREERS

JOB TITLE & DUTIES
What kind of work do the people in this occupation do on the job.

SIZE OF OCCUPATION
How many paying jobs exist in this occupation in Minnesota (1993).

SALARIES – LOW RANGE
Nine out of ten workers in this occupation earn at least this amount per hour (1994).

SALARIES – MID RANGE
Half of the workers in this occupation earn at least this amount per hour (1994).



PRINTER, PRE-PRESS
Mostly "pre-press" workers, who prepare an original printing job before it is run on a printing press. They may be typesetters, page composers, photoengravers, strippers, platemakers. Increasingly they do this work by computer.

4,820 people are employed as pre-press workers in the printing industry in Minnesota.

Nine out of ten pre-press workers earn over $7.79 per hr.

One-half of all pre-press workers earn over $12.72/hour, usually with experience.

PRINTING MACHINE OPERATORS & TENDERS
Set up, operate and/or tend printing machines such as offset presses, letterpresses, screen printing machines, bindery machines, and litho & photoengraving machines.

13,200 people are employed as printing machine operators and tenders in Minnesota.

Nine out of ten printing machine operators and tenders earn over $8.02/hr.

One-half of all printing machine operators and tenders earn over $13.71/hr., usually with experience.

MACHINISTS and TOOL & DIE MAKERS
Machinists set up and operate machine tools to make and repair metal parts. Tool & die makers produce precision tools used to cut and form metal; they also make dies and jigs and fixtures.

In Minnesota 10,890 people work in these two occupations: 7,790 as machinists, and 3,100 tool & die makers.

Nine out of ten machinists earn over $9.70/hr.

Nine out of ten tool and die makers earn over $10.50/hr.

One-half of all machinists earn over $15.20/hr. Half of all tool & die makers earn over $15.75/hr., usually with experience.

Numerical control machine tool, metal/plastic	2,790	$9.10	$13.00
Combination machine tool setup/operator	2,310	$6.50	$10.70
Heating/Air conditioning/Refrigeration mechanics	3,210	$11.00	$20.50
Sheet metal workers	4,660	$8.50	$11.00
Welders and cutters	6,010	$8.50	$11.30
Farmers	43,030	??	??**$7.50
Farm Managers	8,140	??$7.00	??**$15.00
Butchers and meatcutters	5,960	$5.50	$10.50
Inspectors & related occupations	11,250	$7.50	$11.00

60

61

MORE ABOUT THESE FIELDS ON PAGES 55 & 56.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

Pre-press work has an average growth rate. To 2001, the no. of pre-press workers will increase by 16%. (47% rise in electronic pagination system operators.)

0% 5% 10% 15% 20%+

Printing machine work has an average growth rate. From 1993 to 2001, the no. of printing machine operators & tenders will increase by 14%.

0% 5% 10% 15%

Job growth for machinists and tool & die makers is below-average. From 1993–2001, the no. employed in each occupation will increase by only 4%.

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 230 new pre-press workers yearly to 2001, to fill new positions and to replace retirees. (60 new electronic pagination opertrs.)

0 500

Minnesota will need 510 new printing machine operators and tenders yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 200 new machinists and 100 new tool & die makers yearly to 2001, to fill new positions and to replace retirees.

0 500 1000 1500 2000+

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

Printing training (or graphic communication) at technical colleges takes 12–18 mos. Some on-the-job training thru apprenticeship is available.

HS +1yr +2yr

Many workers start as helpers in printing cos., and are trained on-the-job. Apprenticeships are also available. Or tech college training takes 12–18 mos.

HS +1yr +2yr

Training programs for machining work and for tool & die take 18–20 mos. to complete at tech colleges. Skills can also be learned thru 4-yr apprenticeship on-the-job.

HS +1yr +2yr +3yr +4yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

In the past 20 years, the printing industry has shifted to computerization in typesetting and page layout, resulting in fewer new jobs. Older occupations have suffered: a printing assn. says job prospects are "very poor for typesetters, compositors, & platemakers." Considerable demand exists in the printing industry for pagination & desktop operators, which are newer, highly computerized jobs. However, many trained applicants are available for those jobs & starting pay is $6.50/hr.

Poor Caution Fair Good Excellent

For printing press operators, the job outlook is good. Jobs for *offset, gravure, & flexographic* press operators will increase somewhat. Several tech colleges list printing (or graphic arts) as highly likely to lead to jobs. One source says that entry positions are available in *binderies* (starting wages of $7-8/hr. & jobs are not very glamorous, but workers can advance from there). Also, companies are offering entry level training for pressroom helpers, jobs which pay more.

Poor Caution Fair Good Excellent

Prospects for machinists and tool & die makers are very good. For 4 or 5 years there's been a demand for machinists, & although it cooled off briefly in mid-1995, an association of machine shops said in Feb 96, "We can't get enough qualified people." Twelve tech colleges in Aug 95 listed Machine Tool as a field *most* likely to lead to jobs (2nd highest of all 2-yr. training programs). Best job opportunities exist for machinists with CNC (computer numerical control). See more on pp. 55-56.

Poor Caution Fair Good Excellent

21% 24% 14% 14% 17%

-10% minus -10% minus

1%

-11% minus -11% minus

0%

120 110 110 200 280

-190 minus -190 minus

120 80 260

Tech College: 18mo or OJT
Tech College: 18mo or OJT
Tech Col: 18mo or Appren
Tech Col: 2 yrs or Appren
Tech Col 9-18mo or Appren

Exper. or 2-4yr training
2-4 yr training + exper.
TechCol: 9-22mo or Appren
Exper. or Tech coll: 1-2yr

"Tech college, or Tech Col, or TC" means that Technical College training is available.

OJT means on-the-job training.

"Appren" means that, if accepted by the union & employer, 2-4 yrs apprenticeship training is available on-the-job, plus schooling after hours.

Excellent
Should be good
Should be good
Should be fairly good
Should be very good

Shrinking occupation, caution
Fair to good for trained & experienced
Shrinking occupation, caution
Not a growing field at all, due to new quality methods

CONSTRUCTION CAREERS

JOB TITLE & DUTIES	SIZE OF OCCUPATION	SALARIES – LOW RANGE	SALARIES – MID RANGE
What kind of work do the people in this occupation do on the job.	How many paying jobs exist in this occupation in Minnesota (1993).	Nine out of ten workers in this occupation earn at least this amount per hour (1994).	Half of the workers in this occupation earn at least this amount per hour (1994).

CARPENTERS

Construct wood structures in buildings and/or repair woodwork.

18,950 people work as carpenters in Minnesota.

Nine out of ten carpenters earn over $11.00/hr.

One-half of all carpenters earn over $17.82/hr., usually with experience.

ELECTRICIANS

Install, maintain, and repair wiring, electrical equipment, and fixtures. Ensure that work is in accordance with relevant codes.

8,850 people are employed as electricians in Minnesota.

Nine out of ten electricians earn over $14.86/hr.

One-half of all electricians earn over $19.95/hr., usually with experience.

PLUMBERS, PIPEFITTERS, AND STEAMFITTERS:

Assemble, install, alter, and repair pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air, or other liquids or gases.

5,520 people are employed as plumbers, pipefitters, & steamfitters in Minnesota.

Nine out of ten plumbers, pipefitters, and steamfitters earn over $15.48/hr.

One-half of all plumbers, pipefitters, and steamfitters earn over $21.01/hr., usually with experience.

PAINTERS and PAPERHANGERS

Paint walls, equipment, buildings, bridges, and other structural surfaces using brushes, rollers, and spray guns; or cover interior walls and ceilings of rooms with decorative wallpaper or fabric.

6,170 people are employed as painters and paperhangers in Minnesota.

Nine out of ten painters and paperhangers earn over $10.00/hr.

One-half of all painters and paperhangers earn over $20.01/hr., usually with experience.

More About Construction Careers on Pages 34-35, 56.

GROWTH RATE	JOB OPENINGS	TRAINING NEEDED	AVAILABILITY OF JOBS
How fast this occupation is growing. (Percent increase from 1993 to 2001).	How many job openings per year will be available for new workers (average till 2001)	How much full-time training is generally needed to enter this occupation?	What is the job market like for this occupation? How easy is it to find jobs?
0% 5% 10% 15% 20%+	0 500 1000 1500 2000+	HS +1yr +2yr +3yr +4yr	Poor Caution Fair Good Excellent
Carpentry has a below-average growth rate. From 1993 to 2001, the number of carpenters employed will increase by 7%. 0% 5% 10%	Minnesota will need 560 new carpenters yearly to 2001, to fill new positions and to replace retirees. 0 500 1000	H.S. graduation, plus apprenticeship or completion of 18–22 month carpentry training in a technical school. HS +1yr +2yr	Job prospects are fair to good. Five technical colleges list *carpentry* as a field *most* likely to lead to related jobs. An apprenticeship official says "we've had a couple good years for both journeymen and apprentices, and we expect that this will be a continuing trend for the next 2-3 years" [if interest rates remain low]. A builders assn. says "the highly-skilled carpenter will be in demand. ...People who demonstrate good skills get a reputation." Poor Caution Fair Good Excellent
Electrician work has a below-average growth rate. From 1993 to 2001, the number of electricians employed will increase by 7%. 0% 5% 10%	Minnesota will need 250 new electricians yearly to 2001, to fill new positions and to replace retirees. 0 500	Training for electricians at a technical college lasts 18–22 mo. Apprenticeship is another option for training. HS +1yr +2yr	Job outlook is fair to good. An electricians union states that "construction is by its nature temporary, with peaks & valleys. In the Twin Cities, prospects will be good for the next couple years, maybe the next 4 to 5 years, because lots of big projects are coming up. However, this good situation might fade with a rapid rise in interest rates." Five tech colleges list *Construction Electrician* as one field most likely to lead to related jobs. Poor Caution Fair Good Excellent
Work in the plumbing, pipefitting & steamfitting fields has a below-average growth rate. From 1993–2001, the number employed will increase by 4%. 0% 5%	Minnesota will need 150 new plumbers, pipefitters & steamfitters yearly to 2001, to fill new positions and to replace retirees. 0 500	H.S., plus apprenticeship, or 9–11 months training at a technical college. HS +1yr	Job prospects should be fair to good. One union said in Aug 95, "Right now the job outlook is pretty good, but it's seasonal, of course." Another union says: "There are good & bad times for plumbers: We're in an upturn....But 3 years ago, 200 to 300 plumbers were not working." A third union says *pipefitters* who can service heating & air conditioning systems have the best prospects. Two tech colleges list *Plumbing* as a field highly likely to lead to jobs. Poor Caution Fair Good Excellent
Painting and paperhanging work has an average growth rate. From 1993 to 2001, the number of painters & paperhangers employed will increase by 9%. 0% 5% 10%	Minnesota will need 210 new painters and paperhangers yearly to 2001, to take new positions and to replace retirees. 0 500	H.S., plus apprenticeship, or 9–11 months training in a technical college. HS +1yr	A Twin Cities painters union said in Aug 95 that "painters have overwhelming job availability right now; people are needed. Projects are working overtime schedules & overtime pay." The union says painting "hasn't been seasonal the last 2 winters...If they can paint, spray, & are not afraid of heights, they can work steadily in this field." Also, demand has been good for paperhangers and drywall installers —"contractors grab them and keep them for a long time."

CONSTRUCTION & DRIVING CAREERS

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
GENERAL BUILDING REPAIRPERSONS Use more than one trade to do general repair and maintenance on machines, equipment, and/or structure of a building. Might involve plumbing, welding, machining, carpentry, electrical.	22,140 people work as general repairpersons in Minnesota.	Nine out of ten general repairpersons earn over $7.73/hr.	One-half of all repairpersons earn over $12.72 per hr., usually with experience.
HEAVY TRUCK DRIVERS Drive tractor-trailer combination or truck with a capacity of at least 3 tons to transport and deliver goods, livestock, or materials in liquid, loose or packaged form. May be required to unload truck.	An estimated 28,500 people are employed as heavy truck drivers in Minnesota.	Nine out of ten heavy truck drivers earn over $8.16/hr.	One-half of all heavy truck drivers earn over $12.02 per hour, usually with experience.
LIGHT TRUCK DRIVERS Drive truck, van, or automobile with a capacity under 3 tons. May drive light truck to deliver or pick up merchandise and load and unload truck. Includes delivery & route drivers.	An estimated 18,500 people are employed as light truck drivers in Minnesota.	Nine out of ten light truck drivers earn over $5.15 per hour.	One-half of all light truck drivers earn over $9.00 per hour, usually with experience.

CONSTRUCTION WORKERS			
Bricklayers and stone masons	2,130	$14.25	$20.85
Drywall installers & finishers	2,050	Not available	Not available
VEHICLE DRIVERS			
Bus drivers (not school bus)	4,120	$7.45	$16.40
School bus drivers	11,320	$7.25	$8.50
Grader, dozer, scraper operators	1,590	$12.00	$19.30
Heavy equip. operator (Operating engineer)	2,910	$11.70	$15.40
Highway maintenance workers	4,310	$11.45	$13.80

MORE ABOUT DRIVING CAREERS ON PAGE 57.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

0% 5% 10% 15% 20%+

General repair work has an average growth rate. From 1993 to 2001, the number of general repairpersons employed will increase by 16%.

0% 5% 10% 15%

Heavy truck driving work has an average growth rate. From 1993–2001, the number of heavy truck drivers employed will increase by 14%.

0% 5% 10% 15% 20%+

Light truck driving work has an average growth rate. From 1993–2001, the number of light truck drivers employed will increase by 14%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

0 500 1000

Minnesota will need 770 new repairpersons yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need an estimated 940 new heavy truck drivers yearly to 2001, to take new positions and to replace retirees.

0 500 1000 1500 2000+

Minnesota will need an estimated 620 new light truck drivers yearly to 2001.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

HS +1yr +2yr

Need solid familiarity with 2–4 construction trades. Tech colleges also have 18–20 mo. training programs. May need boiler's license.

HS +1yr

H.S., plus physical & special driving exams. 4–8 mo. tech college is available. Or may need experience as a light truck driver. Some train as driver's helpers or dock workers.

HS +1yr +2yr +3yr +4yr

H.S. grad is desirable. Must pass physical, written, and driving exams. Available training: 4–8 mo. at tech colleges.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Job prospects should be fair to good. Many job openings, but also many applicants. Chances are best with a steady work history & experience doing building repair. One tech college lists *building mechanic* as highly likely to lead to jobs. Nationally: faster-than-average increase in the number of jobs for repairpersons who use plumbing, carpentry, & electrical skills to do maintenance on office buildings, apartments, stores, schools, hospitals, hotels, and factories.

Currently the outlook is good for qualified drivers. In Aug 95 three tech colleges listed *Truck Driving* as a field most likely to lead to jobs. One school said it "can't fill these jobs; there are many jobs" for graduates. A union said in Oct 95, "in the future there will be a definite demand, ...not just for the next one or two years, but for the next ten years, because so many of the current drivers are nearing retirement age. So a whole new group of drivers will be needed to replace them."

Poor Caution Fair Good Excellent

Job openings should be good for light truck drivers and for bus drivers. Jobs probably are available with handicap bus companies, courier companies, & any school bus companies. A delivery company said in Sept 95, "Present job availability is great. We see this demand continuing indefinitely....A person can increase chances of getting a job by being flexible with hours." Another delivery company says they have many jobs they can't fill, even daytime shifts.

Poor Caution Fair Good Excellent

6% 6%

60 80

TechCol 1yr or Appren

Apprenticeship 4yr+

Very good outlook. Many bricklayers nearing retirement

Should be okay

11% 14% 5% 6% 18%

110 330 40 60 150

Special License

Special License

TechCol 18mo or Appren

TechCol 18mo or Appren

Civil Service Test

"Tech college" or "Tech Col" mean that technical college training is available.

"Appren" means that, if you are accepted by the union & an employer, 2-4 years of apprenticeship training is available on the job, plus schooling after hours.

Best jobs attract continued competition

Excellent. Shortage of school bus drivers

Fair

Fair to good

Fair

BEST COPY AVAILABLE

SALES CAREERS

JOB TITLE & DUTIES	SIZE OF OCCUPATION	SALARIES – LOW RANGE	SALARIES – MID RANGE
What kind of work do the people in this occupation do on the job	How many paying jobs exist in this occupation in Minnesota (1993).	Nine out of ten workers in this occupation earn at least this amount per hour (1994).	Half of the workers in this occupation earn at least this amount per hour (1994).

SALES REPRESENTATIVES FOR WHOLESALERS & MANUFACTURERS

Sales representatives for wholesalers & manufacturers sell goods and services to other businesses. They not only sell to established customers but also find new ones.

29,160 people work as sales representatives for wholesalers & manufacturers in Minnesota.

Nine of 10 sales representatives earn more than $7.00/hr.

One-half of all sales representatives earn over $14.47/hour, usually with experience.

TECHNICAL SALES

Sell scientific & technical products such as aircraft or agricultural supplies, industrial machinery, medical supplies, chemicals, & instruments, by using scientific knowledge such as biology, engineering, chemistry, or electronics.

9,920 people sell scientific and technical products in Minnesota.

90% of all people who sell scientific and technical products earn over $11.14/hr.

One-half of all people who sell scientific and technical products earn over $20.19 per hr, usually with experience.

SALES AGENTS, BUSINESS SERVICES

Sell services to businesses, services such as advertising, building maintenance, credit reporting, bookkeeping, security, printing & storage (that is, services other than insurance, financial, or real estate).

32,520 people are employed in sales of business services in Minnesota.

Nine out of ten *advertising sales agents* earn over $7.00/hr. Nine out of ten *sales agents of other business services* earn over $9.10/hr.

One-half of all *advertising sales agents* earn over $12.40 per hour, usually with experience. Half of all *sales agents of other business services* earn over $14.40.

SALES OF SECURITIES & FINANCIAL SERVICES

- Buy and sell *securities* upon customers' request; *or*
- Call upon businesses and individuals to sell *financial services* for banks and for savings and loan associations.

5,240 people are employed as securities and financial services salespersons in Minnesota.

Nine out of ten securities and financial services salespersons earn more than $7.66/hr.

One-half of all securities and financial services salespersons earn over $13.85 per hour, usually with experience.

MORE ABOUT SALES CAREERS ON PAGE 57.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

Sales rep work has a below-average growth rate. From 1993 to 2001, the number of sales representatives employed will increase 6%.

0% 5% 10%

Scientific and technical sales has a below-average growth rate. From 1993 to 2001, the number employed will increase by 7%.

0% 5% 10%

Sales of business services has an average growth rate. From 1993 to 2001, the number of sales agents of business services will increase by 10%.

0% 5% 10% 15%

Securities and financial services saleswork has an above-average growth rate. From 1993-2001, the number of salespersons will increase by 18%.

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

Minnesota will need 830 new sales reps yearly to 2001, to fill new positions and to replace retirees.

0 500 1000

Minnesota will need 300 new salespeople for scientific and technical products yearly to 2001, to fill new positions and to replace retirees.

0 500

Minnesota will need 980 new sales agents of business services yearly till 2001, to take new positions and to replace retirees.

0 500 1000

Minnesota will need 180 new securities and financial services salespersons yearly to 2001, to fill new positions and to replace retirees.

0 500

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

HS +1yr +2yr +3yr +4yr

Some companies promote current employees. Increasingly, cos. want a 4-yr. degree; some consider a 2-yr. degree. Others hire those with excellent sales experience.

HS +1yr +2yr +3yr

Most employers require a 4-year college degree in science or engineering.

HS +1yr +2yr +3yr +4yr

Employers look on good sales experience as valuable. Some jobs also require a 4-year degree, some a 2-year degree, & some less.

HS +1yr +2yr +3yr

Many positions require a 4-year degree with a major in marketing or business; some require only a 2-yr. degree. Good sales experience is a valuable asset.

HS +1yr +2yr +3yr +4yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Prospects for sales reps are mixed—some say *fair*, but others say *poor*. A wholesale company said in August 1995 that the job market "is confusing. Consolidations are continuing and... fewer customers exist," so fewer sales reps are needed. There is some indication of a surplus of *commission sales people* in Minnesota. It appears there's a substantial, continuing need, but considerable competition. An association of sales representatives added that it may help to be computer-literate.

Due to the increasing technical complexity of many products, prospects should be good for *technical & scientific sales* —better than most other occupations that require a 4-year college degree, & better than other big-ticket sales fields. People with both technical abilities and sales skills should find a demand in coming years. For example, one U of M campus listed *agricultural industries sales & management* as highly likely to lead to jobs.

Poor Caution Fair Good Excellent

Prospects for sales agents of business services will probably be fair to good, especially for college grads or persons with proven sales records. However, some companies may need fewer workers, due in part to the use of technologies, such as voice mail, cellular telephones, & laptop computers, which help each worker to accomplish more. Mastering the use of these technologies may be wise. Two rising fields: travel sales and home health care sales.

Poor Caution Fair Good Excellent

Keen competition exists for *securities sales* jobs ("stock brokers") due to the potential for high pay. But the *financial sales* field in banks & other financial institutions offer fairly good prospects, as they offer an increasing array of financial services. The number of new jobs in these fields will increase at an above-average rate from 1993 to 2001. But, as with all commission sales, there appears to be a fair supply of candidates for jobs.

Poor Caution Fair Good Excellent

SALES CAREERS

JOB TITLE & DUTIES	SIZE OF OCCUPATION	SALARIES – LOW RANGE	SALARIES – MID RANGE
What kind of work do the people in this occupation do on the job	How many paying jobs exist in this . . .cupation in Minnesota (1993).	Nine out of ten workers in this occupation earn at least this amount per hour (1994).	Half of the workers in this occupation earn at least this amount per hour (1994).

INSURANCE AGENT

Sell and explain insurance to clients. Types of insurance might include life, car, household, accident, fire, endowment. Might be employed by an insurance company or might be an independent broker.

13,750 people work as insurance sales agents in Minnesota.

Nine out of ten insurance sales agents earn over $15.43 per hour.

One-half of all insurance sales agents earn over $25.35 per hour, usually with experience.

TRAVEL AGENTS & RESERVATION AGENTS

Travel agents plan trips for customers of a travel agency, including destination, transportation, travel dates, costs, hotels. *Reservation agents* make ticket reservations for airline & bus companies, etc.

5,320 people are employed in this field in Minnesota, 2,260 as travel agents & 3,060 as reservation & ticket agents.

Nine out of ten travel agents & reservation & ticket agents earn over $7.50/hr.

One-half of all travel agents and reservation & ticket agents earn over $10.75 per hour, usually with experience.
Travel: $10.50
Reserv.: $12.50

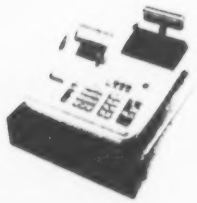
REAL ESTATE AGENT

Real estate sales agents sell or rent property to clients on a commission basis. Sometimes buy property. Study property listings, interview clients, show them property, discuss conditions of a sale, draw up real estate contracts.

9,600 people work as real estate agents in Minnesota.

Nationally agents start at very low pay, less than $5.50/hour in 1992 (or pay may even be *nothing* if agents receive commission only upon completing a sale).

Nationally, the middle salary for real estate agents in 1992 was about $12.75 per hour. No salary information is available for Minnesota alone.



RETAIL STORE SALES

Sell any of a wide variety of goods in a store. Many sell less costly items (clothing, accessories, etc.), usually at low hourly pay. A few sell *big-ticket items*—furniture, cars, appliances, electronics—usually for commission and higher pay.

72,660 people work as retail store salespersons in Minnesota.

Nine out of ten earn over $4.60. But those selling more expensive items (such as cars & furniture) may get high commissions.

Half earn over $6.00/hr. But selling costly items such as appliances & electronics may produce high commissions.

GROWTH RATE How fast this occupation is growing. (Percent increase from 1993 to 2001).	JOB OPENINGS How many job openings per year will be available for new workers (average till 2001)	TRAINING NEEDED How much full-time training is generally needed to enter this occupation?	AVAILABILITY OF JOBS What is the job market like for this occupation? How easy is it to find jobs?
Insurance sales has a below-average growth rate. From 1993 to 2001, the number of insurance agents will increase 6%.	Minnesota will need 380 new insurance sales workers every year, to fill new positions and to replace retirees.	Many employers prefer 4-year college grads, but some will hire high school grads with sales ability or experience. Must pass state licensing exam.	Prospects should be fairly good, but the work is highly competitive. Three large insurance cos. said in Fall 95 that the job outlook is good for insurance agents and that "especially in sales, companies are constantly recruiting." Well-trained and ambitious people who enjoy sales and who develop expertise in a wide range of insurance and financial services will have the best chances. Many beginners abandon insurance sales when they can't establish a sufficiently large clientele.
Travel & reservation work has an above-average growth rate. From 1993–2001, the number of agents will increase by 24%. Travel : 30%. Reserv.: 19%.	Minn. will need 260 new workers yearly in this field until 2001, to fill new positions & to replace retirees: 130 travel agents & 130 reservation agents.	Most people enter this field as clerks, secretaries, or receptionists & then promoted. Some tech colleges offer 9 mo training. Some cos. like college: geography, computers.	Depends on the economy & air fares. This field is growing very fast, but competition is strong for jobs. People who are trying to enter the *travel agent* field may have to accept clerical jobs in travel companies, with the hope of being promoted. Most applicants for *reservationist* jobs are likely to find much competition, because airline jobs attract many applicants due to the travel benefits & the glamour. But, although the outlook for *new full-time* reservationists is poor, it's fair to good for *part-time*.
Real estate sales is a field that has a below-average rate of growth. From 1993 to 2001, the number of real estate agents employed will increase by 7%.	Minnesota will need 240 new real estate salespersons yearly, to fill new positions and to replace retirees.	Little training is required, except 90 hrs of licensing classes, available part-time at certain colleges, community colleges, tech colleges, or private schools.	Prospects should be fairly good. However, the work itself is highly competitive. Year after year many capable people enter (and leave) this field, for various reasons: It has the feel of a *profession* and self-employment, yet doesn't usually require an extensive related background. It's relatively easy to enter, even part-time, without much risk, because of the odd hours (working when everyone else doesn't) & because starting pay is often "commission" (or "zero").
New job growth for retail salesworkers is average. From 1993 to 2001, their numbers will increase by 12%.	Minnesota will need 3,540 new retail salespersons per year till 2001, to fill new positions and to replace retirees.	H.S. grads preferred, then train on the job. For better-paying jobs, need extensive knowledge of the product (cars, appliances, electronics).	Retail store sales is *the* occupation predicted to have the highest number of new jobs from 1993 to 2001. Chances are excellent for lower-paying jobs—hundreds of low-paying jobs are available. However, strong competition exists for commission sales jobs within stores—especially for "big-ticket" items like furniture, cars, appliances, electronics— because of the higher earning potential. In general, there appears to be a fair oversupply of candidates for commission sales jobs.

CAREERS REQUIRING 4 YEARS OF TRAINING OR MORE

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
SPECIAL ED TEACHER Teach elementary and secondary subjects to educationally and physically handicapped students. May specialize in such areas as mental retardation, hearing, vision.	7,060 people work as special education teachers in Minnesota.	Nine out of ten special education teachers earn over $15.80/hr.	One-half of all special education teachers earn over $22.10/hr.,
SECONDARY TEACHERS Instruct pupils in public or private schools in one or more subjects, such as English, math, social studies, business, phy ed, language, or voc ed. Usually specialize.	19,350 people are employed as secondary school teachers in Minnesota.	Nine out of ten secondary teachers earn over $15.00/hr.	One-half of all secondary teachers earn over $22.40, usually with experience.
ELEMENTARY TEACHERS Elementary, kindergarten, & pre-school teachers instruct pupils in public or private schools. They teach elemental, physical, mental, & developmental skills.	25,570 elementary teachers and 8,120 preschool & kindergarten teachers in Minn.	9 of 10 elementary & kindrgn. teachers earn over $13.60/hr. 9 of 10 preschool tchrs. over $7.40	Half of elementary & kindrgn. teachers earn over $21.30. Half preschool tchrs. over $13.75.
SOCIAL WORKER Counsel and aid individuals and families requiring social service assistance. Help them to understand their problems and to deal with those problems.	10,640 people work as social workers in Minnesota.	Nine out of ten social workers earn more than $11.50/hour.	One-half of all social workers earn over $16.00 per hr., usually with experience.
LAWYERS Conduct criminal & civil lawsuits. Draw up legal documents. Advise clients as to legal rights. Practice other phases of the law. May represent client in court or before other government agencies.	10,580 people work as lawyers in Minnesota.	Nine of 10 lawyers earn over $15.40/hr. (excludes those self-employed).	Half of all lawyers earn over $26.30/hr., (excludes those self-employed).
CIVIL ENGINEER Plan, design, and oversee construction & maintenance of structures and facilities, such as roads, railroads, airports, bridges, dams, power plants, water and sewage systems, etc.	2,300 people are employed as civil engineers in Minnesota.	Nine out of ten civil engineers earn over $16.50 per hour.	One-half of all civil engineers earn over $22.60, usually with experience.
INDUSTRIAL ENGINEER Plan and oversee the use of production facilities & of personnel in a department or other subdivision of an industrial establishment.	2,000 people are employed as industrial engineers in Minnesota.	Nine out of ten industrial engineers earn over $12.70/hr.	One-half of all industrial engineers earn over $19.20, usually with experience.
ARCHITECT Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.	1,800 people are employed as architects in Minnesota.	Nine out of ten architects earn over $10.30/hr.	One-half of all architects earn over $17.50, usually with experience.

MORE ABOUT THE OUTLOOK FOR TEACHERS IS INCLUDED IN *MINNESOTA CAREERS 1996.*

GROWTH RATE	JOB OPENINGS	AVAILABILITY OF JOBS
How fast this occupation is growing. (Percent increase from 1993 to 2001). 0% 5% 10% 15% 20%+	How many job openings per year will be available for new workers (average till 2001) 0 500 1000 1500 2000+	What is the job market like for this occupation? How easy is it to find jobs? Poor Caution Fair Good Excellent
Special education teaching has a very high growth rate. From 1993-2001, the number will increase by 35%.	Minnesota will need 370 new special education teachers yearly till 2001, to fill new positions and to replace retirees.	Most special ed fields have a high demand. In the Midwest, nine of ten teaching fields most in demand are special ed specialties: speech pathology (highest demand), behavioral disorders (2nd), multiple handicaps, audiology, hearing impaired, physically impaired, visually impaired, learning disability, mentally handicapped. Special ed is an occupation growing very fast from 1993 to 2001 in Minnesota.
Secondary teaching has an average growth rate. From 1993 to 2001, the no. of sec. teachers will increase by 15%.	Minnesota will need 770 new secondary teachers yearly till 2001, to fill new positions and to replace retirees.	A college placement officer says "the outlook for secondary ed is not much better than for elementary ed." Of all 1993-94 grads, 56% were placed. Some teaching areas have a fairly high demand: bilingual ed, physics, English as a 2nd language, chemistry, Spanish, & math. Many other fields have some demand; others are balanced. But health and social sciences have a surplus of job applicants. Considerable surplus in physical educ.
Elementary has a below-average growth rate of 7%. Preschool & kind. teaching has very fast growth of 35%.	Minn. needs 1,070 new elementary, kindrgarten, & preschool teachers yearly for new positions & retirees.	More job-seekers than jobs. One college placement officer says "the outlook for elementary teachers is poor. In 1993-94 only 45% of graduates were placed." The outlook is better for those who relocate to states with higher demand & for those in early childhood education or preschool (often lower pay, however). A second college notes that job prospects improved somewhat, but, still, fewer than half found teaching jobs.
Social work has an above-average growth rate. The no. of social workers employed will increase by 24%.	Minnesota will need 410 new social workers yearly till 2001, to fill new positions and to replace retirees.	Somewhat confusing. Prospects appear to be fair. However, there are some indications of a surplus of social workers statewide. The number of social work jobs will grow fast due to rising needs of the elderly, mentally ill, disabled, & persons in crisis. But some of these needs may met through more use of paraprofessional human services workers. Also if Congress reduces welfare funds, it may cause an upheaval in this field.
Law has an above-average growth rate. From 1993 to 2001, the number of law positions will increase by 19%.	Minnesota will need 400 new lawyers each year till 2001, to fill new positions and to replace retirees.	Although the number of jobs for lawyers is expected to increase faster than average, keen competition for job openings is expected. While jobs are available, there are *a lot more candidates than jobs.* Many, many have pursued law degrees in the past 10 to 20 years. One law school expects 300-400 new jobs next year, but 800 new graduates from three schools in the Twin Cities. The school is "cautiously optimistic about present job availability."
Civil engineering has an above-average growth rate. From 1993-2001, the number will increase by 18%.	Minnesota will need 110 new civil engineers yearly to 2001, to take new positions and to replace retirees.	Good prospects for employment. The U of M sees significant growth for civil engineers now and in the future, both in environmental engineering (dealing with soil, ground water concerns, etc.) and in refurbishing the infrastructure of the U.S. (roads, bridges, airports), although this depends upon govt. funding. The U of M suggests acquiring computer skills & making an early choice of environmental, transportation, or structural.
Industrial engineering has a below-average growth rate. From 1993 to 2001, the number will increase by 6%.	Minnesota will need 70 new industrial engineers yearly to 2001, to take new positions and to replace retirees.	Long term: opportunities for employment should be good in Minnesota. Although the job market for industrial engineers has been tight in the recent past, it is experiencing an upswing, along with other engineering fields. Industrial engineers can still expect increasing opportunities & wage offers above those for other college grad fields.
Architecture has an average growth rate. From 1993 to 2001, the no. of architects will increase by 15%.	Minnesota will need 60 new architects yearly to 2001, to take new positions and to replace retirees.	Despite strong competition for jobs in this popular field (layoffs have occurred at big arch. firms in the last 3 or 4 years), prospects are still good for new grads. As of Summer 95 most firms were quite busy. Competition is keen during recessions. Skill in computer-aided design may help to land a job. A big obstacle to entering this field is to be accepted at a school (some candidates apply year after year without success). The only *professional* degree possible in Minnesota is the 6-yr. U of M master's degree. *Caution:* some schools offer *nonprofessional degrees*—these can't be used to become an architect.

JOBS REQUIRING LITTLE OR NO TRAINING

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).

0 10,000 20,000 30,000+

SALARIES – LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).

0 $5 $10 $15 $20+

SALARIES – MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).

0 $5 $10 $15 $20+

CASHIERS
Receive money and make change in stores, restaurants, and similar establishments. Usually involves the use of cash registers, adding machines, & change makers.

50,620 people work as cashiers in Minnesota.

Nine out of ten cashiers earn over $4.50/hr.

One-half of all cashiers earn over $5.50/hr., usually with experience.

STOCK CLERK IN RETAIL STORES Receive, store, and put merchandise out onto sales floor. Stock shelves, racks, cases, bins, & tables with goods and arrange display of items. Might also count stock or check & mark merchandise.

An estimated 22,500 people work as stock clerks on the sales floors of retail stores in Minnesota.

Nine out of ten stock clerks in retail stores earn over $4.50/hr.

One-half of all stock clerks in retail stores earn over $5.95/hour, usually with experience.

STOCK CLERK IN STOCKROOM OR WAREHOUSE
Warehouse & stockroom stock clerks receive & store materials or equipment, or they issue those items from the warehouse or stockroom. Keep records and compile stock reports.

An estimated 13,000 people work as stock clerks in warehouses or stockrooms.

Nine out of ten stock clerks in warehouses or stockrooms earn over $5.30/hr.

One-half of all warehouse stock clerks earn over $8.80/hr., usually with experience.

SHIPPING & RECEIVING CLERK
Traffic clerks and shipping/receiving clerks verify & keep records on incoming & outgoing shipments & prepare items for shipment. Package, address, stamp, & ship material.

15,970 people work as shipping & receiving clerks in Minnesota.

Nine out of ten shipping & receiving clerks earn over $6.00/hr.

One-half of all shipping & receiving clerks earn over $9.00/hr., usually with experience.

CHILD CARE WORKERS Care for children at school, businesses, & institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. May need college training. (Does not include Teacher Aides)

24,330 people work as child care workers in Minnesota.

Nine out of ten child care workers earn over $4.75/hr.

One-half of all child care workers earn over $6.65/hour, usually with experience.

JANITORS & CLEANERS Keep buildings clean & orderly. Perform heavy cleaning duties: operate cleaning machines, mop floors, wash walls & glass, remove trash, clean sidewalks. May perform routine maintenance (such as painting).

48,500 people work as janitors & cleaners in Minnesota (Estimated).

Nine out of ten janitors & cleaners earn over $5.40/hr. Pay is higher in hospitals & government.

Half of all janitors earn over $7.75/hr. usually with experience. Pay is higher in hospitals & govt.

MAIDS & HOUSEKEEPING CLEANERS
Clean places such as hotels, restaurants, and hospitals, offices, & stores. Or clean private homes. Dust & dry mop. In hospitals or hotels, might make beds, clean rooms & halls.

19,000 people work as maids & housekeeping cleaners in Minn. (Estimated).

Nine out of 10 maids and housekeeping cleaners earn over $5.15/hr. Pay is higher in hospitals.

One-half of all maids earn over $6.50/hr., usually with experience. Pay is higher in hospitals.

WAITRESSES & WAITERS
Serve food and/or beverages to customers at tables. Usually take order from customer and make out check. Might set table & take payment from customer.

Over 43,000 people work as waitresses and waiters in Minnesota.

Most are paid about $4.25/hr., but their pay *plus* tips may equal $5 to $8/hr., for some even $10-20.

Most are paid about $4.25/hr., but their pay *plus* tips may equal $5 to $8/hr., for some even $10-20.

SEE THE FOLLOWING TWO PAGES FOR SIMILAR OCCUPATIONS.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

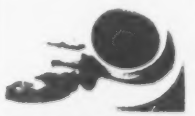
Poor Caution Fair Good Excellent

New job growth for cashiers is average. From 1993-2001, their numbers will increase by 12%.	Minnesota will need 2,930 new cashiers per year till 2001.	Chances are very good, but much part-time work. Shortages of cashiers in lower-paying jobs. A union says that cashiers often work "undesirable hours" in grocery stores and that career advancement is very limited.
Job growth for stock clerks in stores is below-average. By 2001, their numbers will increase by 3%.	Minnesota will need an estimated 600 new store stock clerks per year till 2001.	Chances for jobs are very good for stock clerks in retail stores. But a retail store union says that stock clerks often work "undesirable hours" and that career advancement is very limited.
Job growth for warehouse stock clerks is below-average. Their numbers will increase by only 3%.	Minnesota needs about 300 new stock clerks in warehouses & stockrooms per year till 2001.	Chances should be fair for stock clerks in warehouses & stockrooms. Businesses will more often use computers for inventory control & will install automated equipment; this will hold down demand for stock clerks.
Job growth for ship. & receiving clerks is average. By 2001, their numbers will increase by 13%.	Minnesota needs 460 new shipping & receiving clerks per year till 2001.	Chances should be only fair. Companies will use computers to record shipping & receiving records. Good skills to have: ❍ Ability to keep correct records; ❍ Forklift training; ❍ Some computer knowledge; ❍ Good math skills.
Job growth for childcare workers is average. From 1993-2001, their numbers will rise by 13%.	Minnesota needs 550 new childcare workers per year till 2001.	Job openings will be plentiful, because many pre-school workers leave this occupation each year—to find other jobs that usually pay more or to take care of families. Qualified people will have little trouble finding & keeping jobs.
Janitor/cleaner has a below-average growth rate. The number of jobs will increase by 7%.	Minnesota needs 1,300 new janitors & cleaners per year till 2001 (Estimated).	Many job openings because of high turnover. Best bet: building maintenance companies. These occupations are predicted to have a large number of new jobs from 1993 to 2001. Part-time & temporary jobs are plentiful.
Growth for maids & housekeeping cleaners is below-average. Their numbers will rise 7%.	Minnesota needs 550 new maids & housekeeping cleaners per year till 2001 (Estimated).	Many job openings for those who clean hotels, restaurants, hospitals, offices, & stores because many cleaners quit to seek other work. Best bets: large hospitals, hotels/motels in large cities & tourist areas, and home-cleaning cos.
The waiting occupation is growing at an above-average rate, increasing 18% from 1993 to 2001.	Minnesota needs 3,020 new waiters & waitresses per year till 2001.	Many, many openings. High turnover. For those who want it, there's lots of part-time work, lots of night work, lots of weekend work. Those seeking jobs at restaurants where tips are high will find more competition.

SURVIVAL JOBS

The occupations on pages 42 to 45 provide many jobs for teenagers, for college students, for persons who are not the main wage-earners in their families, for people who want lower-pressure second jobs in addition to full-time jobs, and for those looking for temporary employment. Salaries for these occupations generally are low and don't rise much even if a person stays on the job for several years. The tasks are usually easy to learn and are repeated over and over during the workday. Also the duties often don't require much decision-making or special skills or special knowledge.

In spite of this, many adults *do* make their livings at the better-paying positions in each of these occupations, as office clerks, high-commission retail store sales, warehouse workers, janitors, waitresses and waiters, factory assemblers, and laborers. Often the better-paying jobs are with companies whose workers are covered by unions. On the one hand, workers can't advance too far in many of the jobs listed here. On the other hand, some people stick with them and eventually become specialists or supervisors of others, and therefore earn higher pay.



More Jobs Requiring Little Or No Training

JOB TITLE & DUTIES What kind of work do the people in this occupation do on the job.	SIZE OF OCCUPATION How many paying jobs exist in this occupation in Minnesota (1993).	SALARIES – LOW RANGE Nine out of ten workers in this occupation earn at least this amount per hour (1994).	SALARIES – MID RANGE Half of the workers in this occupation earn at least this amount per hour (1994).
BARTENDERS Mix & serve alcoholic and non-alcoholic beverages to customers of a bar. Follow standard recipes for mixing drinks.	Over 10,000 people work as bartenders in Minnesota.	Nine out of ten bartenders earn over $4.55/hour plus tips.	One-half of all bartenders earn over $6/hour, plus tips.
FOOD COUNTER WORKERS Work at a food counter in a restaurant, store, or delicatessen, performing such duties as taking food & beverage orders, preparing cold foods, cleaning counter areas.	36,600 people work as food counter workers in Minnesota.	Nine out of ten food counter workers earn over $4.25/hr.	One-half of all counter workers earn over $5.80/hour.
FOOD PREPARATION WORKERS Perform food prep duties, such as preparing cold foods and maintaining & cleaning kitchen work areas & equipment. Perform simple tasks like cleaning shellfish or slicing meat. May brew coffee.	28,000 people work as food prep workers & kitchen helpers in Minnesota.	Nine out of ten food prep workers earn over $5.00/hr.	One-half of all food prep workers earn over $6.60/hr., usually with experience.
FAST FOOD/SHORT ORDER COOK Either: ❑ Cook in a fast food restaurant with a limited menu, usually cooking just 1 or 2 basic items such as hamburgers or pizza, or: ❑ Cook food that requires only a short preparation time.	Over 14,000 people work as fast food cooks & short order cooks in Minnesota.	Nine out of ten fast food cooks & short order cooks earn over $4.45/hr.	One-half of all fast food cooks & short order cooks earn over $5.25/hr.
ASSEMBLERS & FABRICATORS (Not including electrical, electronic, machine assembly.) Assemble or fit together parts to form complete units or subassemblies, at a bench, conveyor line, or on a floor. May use hand tools & power tools.	27,000 work as fabricators & assemblers (not including electrical, electronics or machine assembly).	Nine out of ten of these assemblers & fabricators earn over $6.00/hr.	One-half of these assemblers & fabricators earn over $8.75/hr., usually with experience.
HAND PACKERS & PACKAGERS Pack or package by hand a wide variety of products and materials. (Includes only workers whose jobs require only a very small amount of training on the job.)	Over 14,000 hand packers & hand packagers work in Minnesota.	Nine out of ten hand packers earn over $5.50/hr.	One-half of all hand packers earn over $7.10/hr., usually with experience.
GUARDS & WATCHGUARDS Stand guard at entrance gate/door, or walk or drive about the premises of a business or industrial plant to prevent theft, violence, or infractions of rules. Guard property against fire, vandalism, illegal entry.	8,000 people work as guards & watchguards in Minnesota.	Nine out of ten guards earn over $5.45/hr.	One-half of all guards earn over $7.25/hr., usually with experience.
GARDENERS & GROUNDSKEEPERS Maintain grounds of public or private property using hand or power tools. Perform such tasks as mowing, trimming, planting, watering, fertilizing, digging, raking, & sweeping.	Over 8,000 people work as gardeners & groundskeepers in Minnesota.	Nine out of ten groundspersons earn over $5.20/hr.	One-half of all groundspersons earn over $9.00/hr., usually with experience.

SEE PAGES 42 & 43 FOR SIMILAR OCCUPATIONS.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

0% 5% 10% 15% 20%+

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

0 500 1000 1500 2000+

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?

Poor Caution Fair Good Excellent

Bartending has a ***decreasing*** growth rate. From 1993 to 2001, their numbers will ***decrease*** 5%.	The number of bartenders will *go down* 5%.	Minnesota still needs 280 new bartenders per year till 2001 to replace workers who retire.	Many job openings. High turnover because many leave this field to find other jobs. For those who want a second income, there's plenty of part-time work, plenty of night work, plenty of weekend work.
Job growth for food counter workers is average. By 2001, their numbers will increase by 9%.		Minnesota needs 2,180 new food counter workers per year till 2001.		As in the past, a very large number of food counter workers, fast food workers, and food preparation workers will leave their jobs to seek other work, to go to school, or to take care of family responsibilities. Turnover is much higher than average for employees in these fields, partly due to the relatively low pay & partly because many workers don't see these jobs as long-term. Because the workers who quit will need to be replaced, job openings will be plentiful.	
New job growth for food prep workers is above average. Their numbers will increase by 19%.		Minnesota needs 1,580 new food prep workers per year till 2001.		
Growth for fast food & short order cooks is above average. Their numbers will increase by 18%.		Minnesota needs 720 new fast food & short order cooks per year till 2001.		Many job openings. Lots of jobs because many workers quit cooking jobs to seek other work. For those persons who want a second income, there's plenty of part-time work, plenty of night work, plenty of weekend work.	
Assembler is a field that has a below-average growth rate from 1993-2001. The increase will be 3%.		Minnesota will still need 530 new assemblers yearly, mostly to replace those who quit.		Not many *new* jobs, due to automation and work transferred to foreign countries. But because many assemblers quit to seek other work, jobs will be open.	
Job growth is average for hand packers. By 2001, their numbers will increase 12%.		520 new hand packers are needed yearly till 2001 to replace retirees.		High turnover means a large number of openings. Many workers quit these jobs to seek other work.	
Guard work is growing at an above-average rate, increasing by 24%.		Minnesota needs 390 new guards & watchguards per year till 2001.		Lots of jobs with security agencies, who assign guards to different locations, on contract. But, due to better pay & benefits, there's more competition to get hired directly by the actual business or factory whose property is to be guarded.	
Job growth for groundskeepers is average. By 2001, their numbers will increase 13%.		Minnesota needs 220 new gardeners & groundskeers per year till 2001.		An increase in the demand for gardening & landscaping workers will create many job openings. Also many workers quit these jobs to seek other work. And a *floriculture garden* training program reports good job prospects.	

SHRINKING OCCUPATIONS

	1993 Number of MN Employees	Change in the Number Of Employees From 1993 to 2001
FARM-RELATED OCCUPATIONS		
Farmers	43,030	Minus 4,400
Farm workers	13,440	Minus 1,820
METAL & PLASTIC MACHINE SETTERS & OPERATORS		
Machine forming operators (metal/plastic)	3,340	Minus 190
Punching machine setter/oper. (metal/plastic)	1,380	Minus 70
Machine tool cutting operators (metal/plastic)	1,770	Minus 60
Lathe, turning mach. setter/opr. (metal/plastic)	1,540	Minus 30
PRINTING OCCUPATIONS (Mostly replaced by computerized jobs)		
Job printers	380	Minus 70
Paste-up workers	730	Minus 70
Typesetting machine operator/tender	740	Minus 40
Letterpress setter/operator	520	Minus 30
OTHER MANUFACTURING OCCUPATIONS		
Packaging & filling machine operator	6,080	Minus 500
Crushing & mixing machine operator	2,990	Minus 100
Coil winders, tapers, finishers	850	Minus 90
Woodworking & saw machine operator	1,900	Minus 80
RAILROAD OCCUPATIONS		
Locomotive engineers	480	Minus 20
Other rail transportation workers (conductors, yard workers, brake, signal, switch)	2,000	Minus 30

	1993 Number of MN Employees	Change in the Number Of Employees From 1993 to 2001
OFFICE & CLERICAL OCCUPATIONS		
Typists and word processors*	13,260	Minus 1,270
**Although typing is shrinking, the secretary occupation is growing (See p. 16)*		
Computer operators, except peripheral	5,070	Minus 1100
Peripheral EDP equipment operators	550	Minus 190
Switchboard operators	4,370	Minus 470
Billing & posting machine operators	2,160	Minus 430
Bank tellers	8,260	Minus 280
Data entry keyers	740	Minus 120
FOOD PROCESSING OCCUPATIONS		
Butchers & meatcutters	5,960	Minus 670
Cutting & slicing machine set-up/operators	2,310	Minus 210
Separating, filtering machine operators	440	Minus 60
TELEPHONE COMPANY OCCUPATIONS		
Telephone cable & TV cable installers	3,580	Minus 430
Telephone frame wirers	480	Minus 210
Telephone circuits & PBX installers	900	Minus 120
Telephone station installers & repair	390	Minus 70
Telephone operators (long distance & info.)	1310	Minus 320
OTHERS		
Bartenders	10,220	Minus 550
Child care workers, private house	3,280	Minus 550
Cleaners & servants, private house	3,080	Minus 460
Mobile heavy equipment mechanics	1,720	Minus 40

Note: The occupations on this page are all getting smaller. Fewer workers will be needed in these fields. However, because some workers retire or stop working each year, many of these occupations will *still* have openings for new workers. For example, from 1993 to 2001 the bank teller occupation will lose 280 jobs, but because 3,010 tellers will leave the labor market for retirement, child birth, or school, there will still be room for 2,730 new tellers.

...And Popular Occupations With Few Job Openings

Sad but true, certain popular and glamorous occupations do not have enough job openings to match the number of people who train to enter those fields. Some obvious examples are *TV and movie stars, professional athletes, rock stars, and fashion models.* The chance of making a regular living in the those fields is very slim. In recent years, someone figured out that each high school athlete had only a 10,000 to 1 chance of becoming a professional athlete.

The following list includes some less glamorous occupations which also don't appear to have enough job openings to match the number of people who prepare for them and try to enter them. Although some of these occupations have predictions for over 100 yearly job openings, the number of persons qualified and interested in pursuing these openings exceeds by a fair amount the number of openings. (Next year 800 new law school graduates will compete for 400 new lawyer job openings). Our point in listing these occupations is to caution the reader to check these fields carefully before spending a lot of time and money preparing for them, unless you are a top student, a very aggressive job seeker, or have connections that will help you to gain employment.

	1993 Number of MN Employees	Yearly Job Openings 1993-2001
Professional Specialists		
Lawyers	10,580	400
Employment interviewers	1,240	40
Personnel, training, & labor relations specialists	5,310	230
Insurance adjusters, investigators	3,250	130
Architects	1,750	60
Landscape architects	210	10
Economists, market analysts	660	40
Urban and regional planners	830	30
Psychologists	3,320	120
Recreation workers	4,660	170
Foresters	730	30
Librarians	2,610	70
Paralegals	1,600	100
Curators, archivists, museum tech	170	10
Mechanical & Construction		
Motorcycle repairers	170	10
Small engine specialists	920	40
Jewelers and silversmiths	460	10
Operating engineers (Heavy equipment)	2,910	60
Scientific		
Chemists	1,810	80
Biological scientists	660	30
Travel		
Travel agents	2,260	130
Aircraft pilots, flight engineers	numbers not available	
Flight attendants	numbers not available	

	1993 Number of MN Employees	Yearly Job Openings 1993-2001
Writers, Artists, & Media		
Writer, editor, technical writer	5,350	180
Reporters and correspondents	1,110	40
Public relations specialists	1,910	70
Designers** (see p. 24 for types)	6,210	180
Commercial artists & related** (see p. 24)	4,200	160
Musicians**	4,040	150
Dancers and choreographers**	130	0
Entertainers: actor/director/producer**	1,580	70
Radio & TV announcer/newscaster	1,180	50
Photographers**	1,840	60
Camera operators, TV & movie	250	0
Broadcast technicians	430	10
Medical		
Veterinarians, vet. inspectors	1,290	60
Recreation therapists	910	20
Emergency medical technicians	1,980	80
Dietitians and nutritionists	860	30
Electrocardiograph tech (EKG)	210	0
Scientific		
Chemists	1,810	80
Biological scientists	660	30
Protective Service		
Fire fighters	2,160	100
Police patrol officers	5,780	270

** The Arts: People who have an interest in fine arts or performing arts typically will usually have to gain satisfaction from creating and performing as a hobby or avocation, in community theater, amateur bands & orchestras, painting and drawing groups, amateur dance companies, community cable TV, etc.

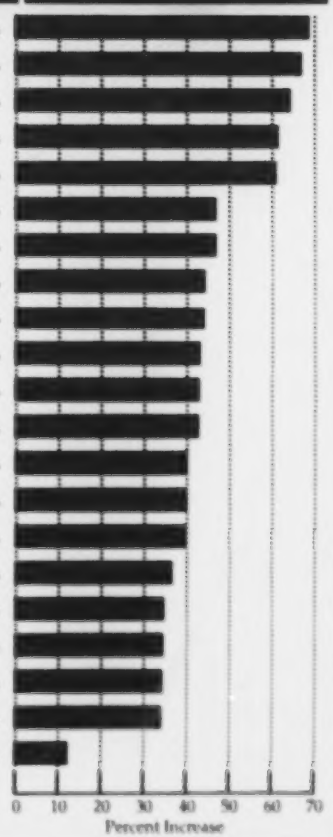
GO!

But with caution: some of these fields have too many applicants.

GROWING OCCUPATIONS

Fastest-Growing Occupations
Minnesota
1993 to 2001

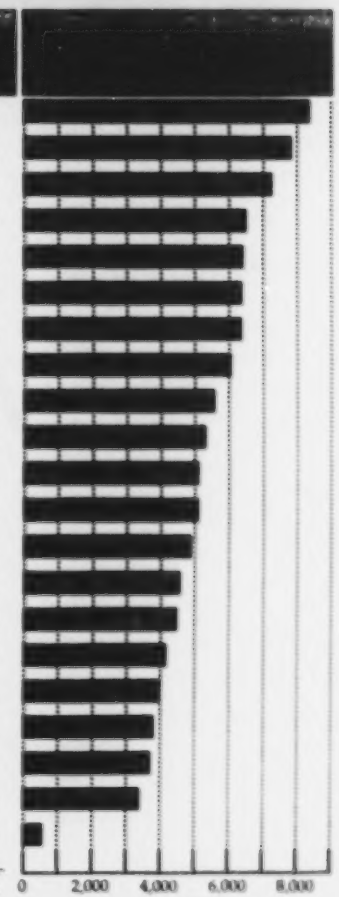
1	**Human Services Workers**	640	69%
2	Computer Engineers	740	67%
3	Systems Analysts	850	65%
4	Home Health Aides	930	62%
5	Personal Home Care Aides	300	61%
6	**Paralegals**	100	47%
7	**Electronic Pagination Operatr.	60	47%
8	Occupational Therapy Assts.	30	45%
9	Manicurists	30	44%
10	Physical Therapy Assts.	80	43%
11	Detectives & Investigators	50	43%
12	Correction Officers	200	43%
13	Physical Therapists	120	40%
14	Data Processing Equip. Repair	110	40%
15	Geologist, Geophysicist	40	40%
16	Occupational Therapists	60	37%
17	**Teachers,Preschool/Kindrgn.**	420	35%
18	Medical Records Techs	110	35%
19	Medical Assistants	110	35%
20	Teachers, Special Ed	370	35%
	Average of all occupations		12.6%



**Although this occupation has high growth, a fair number of qualified people exist to fill job openings. Be sure to look up the job outlook for this occupation, pp. 6-45.

Occupations With the Greatest Number of Projected New Jobs
Minnesota
1993 to 2001

1	**Salespersons, Retail**	8410
2	Waiters And Waitresses	7880
3	General Office Clerks	7310
4	Registered Nurses (but see p. 6)	6550
5	Home Health Aides	6460
6	Truck Drivers, Light & Heavy	6420
7	Systems Analysts	6410
8	Cashiers	6100
9	Computer Engineers & Scientists	5620
10	Food Preparation Workers	5360
11	**General Managers & Top Execs.	5150
12	Nursing Aides & Orderlies	5150
13	Janitor, Cleaners, Maids	4930
14	Human Services Workers	4610
15	First Line Supervisors, Sales	4520
16	Receptionists, Information Clerks	4210
17	First Line Supervisors, Clerical	4000
18	Teacher Aides & Educ. Assistants	3850
19	Accountants & Auditors	3760
20	Cooks, Restaurant	3440
	Average of all occupations	about 600



**Although this occupation has high growth, a fair number of qualified people exist to fill job openings. Be sure to look up the job outlook for this occupation, pp. 6-45.

Two Other Ways of Looking at These Fields

Fast-Growing Minnesota Occupations Which Are Predicted to Have a Large Number of Job Openings

[illegible] 1993-2001

Out of about 440 Occupations

Rank	Occupation	Growth 1993-2001	New Jobs 1993-2001
1	Home Health Aides	62%	6,460
2	Computer Systems Analysis	65%	6,410
3	Computer Engineers & Scientists	67%	5,620
4	Human Services Workers	69%	4,610
5	** Preschool and Kindergarten Teachers**	35%	2,850
5	Personal & Home Care Aides	61%	2,130
7	Special Education Teachers	35%	2,440
8	Correction Officers & Jailers	43%	1,350
9	Restaurant Cooks	24%	3,440
9	Legal Secretaries	30%	1,540
11	Amusement & Recreation Attendants	24%	2,840
12	**Marketing, Advertising & Pub. Relations Mgrs.**	24%	2,610
13	**Social Workers, including Medical & Psychiatric	24%	2,540
14	Guards & Watch Guards	24%	1,920
15	**Physicians & Surgeons**	23%	2,540
16	**Paralegal Personnel**	47%	750
17	Data Processing Equipment Repairers	40%	770
18	Bread & Pastry Bakers	25%	1,020
19	**Personnel/Training/Labor Relations Specialists**	24%	1,270
20	**Radiologic Technologists & Technicians**	31%	810
20	Insurance Adjusters, Examiners, Investigators	28%	910
22	Laundry/Drycleaning Machine Operators	25%	930
22	Physical Therapists	40%	730
24	Food Preparation Workers	19%	5,360
25	Waiters & Waitresses	18%	7,880
26	Teacher Aides, Clerical & Paraprofessional	20%	3,850
27	Medical Assistants	35%	680
27	Bill & Account Collectors	24%	930
29	Medical Records Technicians	35%	680
30	Counter & Rental Clerks	21%	1,790

**Although this occupation has high growth, a fair number of qualified people exist to fill job openings. Be sure to look up the job outlook for this occupation on pages 6-45.

*These occupations are double-ranked by *percentage growth* and the *number of new openings*, 1993 to 2001. In our double-ranking procedure, we first ranked all occupations in two lists: by percentage growth and by number of new openings. We took each occupation's rank in the percentage growth list and added that to its rank in the new openings list. We then did a new ranking based on the sums. So *percentage growth* and the *number of new openings* received equal weight. Minn. Dept. of Economic Security, Research Office, Aug. 95

Large Minnesota Occupations With High Growth Rates and Fair Salaries

[illegible] 1993-2001 [illegible]

Rank	Occupation	No. of Workers 1993	Growth Rate 1993-2001	1993 Median Wage
1	Human Services Workers	6680	69%	$10.62
2	Computer Engineers & Computer Scientists	8350	67%	$23.54
3	Computer Systems Analysts	9920	65%	$22.92
4	Correction Officers & Jailers	3130	43%	$14.13
5	**Preschool ($14) & Kindergarten Teachers ($22)	8120	35%	<<See
6	Special Education Teachers	7060	35%	$22.12
7	Legal Secretaries	5180	30%	$14.14
8	Insurance Adjusters, Examiners, Investigators	3250	28%	$14.94
9	**Psychologists**	3320	24%	$20.60
10	**Personnel/Training/Labor Relation Specialists**	5310	24%	$16.23
11	**Marketing, Advertising & Pub. Rel. Mgrs.**	10880	24%	$22.64
12	**Social Workers, including Medical & Psychiatric**	10640	24%	$15.80
13	Property & Real Estate Managers	3460	23%	$19.47
14	**Physicians & Surgeons**	10990	23%	$55.58
15	Mechanical Engineers	4040	21%	$20.44
16	Natural Sciences & Math Technicians	4570	21%	$10.91
17	Loan Officers & Counselors	5830	20%	$16.75
18	**Lawyers**	10580	19%	$26.27
19	Dental Assistants	3920	19%	$12.00
20	Food Service & Lodging Managers	10200	19%	$10.34
21	Highway Maintenance Workers	4310	18%	$13.80
22	Accountants & Auditors (likely to need 4 yrs. college)	20670	18%	$15.56
23	Vocational Education Teachers & Instructors	3760	18%	$22.81
24	Construction Managers	3480	18%	$23.08
25	Securities & Financial Services Sales Agents	5240	18%	$13.85
26	**Management Analysts**	3140	18%	$17.89
27	Registered Nurses (but see p. 6)	37110	18%	$16.93
28	**Writers & Editors, including Tech Writers**	5350	17%	$16.06
29	**College & University Faculty**	12810	17%	$23.94
30	Engineering, Math, & Sciences Managers	6980	17%	$29.53
31	Automotive Body & Related Repairers	3980	17%	$12.90
32	Licensed Practical Nurses	17430	17%	$11.05
33	Welders & Cutters	6010	17%	$11.27

The occupations in this table are ranked in order of their growth rates, 1993 to 2001.

Note: Does not account for supply of qualified workers or competition for openings.

**Although this occupation has high growth, a fair number of qualified people exist to fill job openings. Be sure to look up the job outlook for this occupation on pages 6-45.

Minn. Dept. of Economic Security, Research Office, Aug. 95

MORE ABOUT MEDICAL CAREERS

◆ *REGISTERED NURSES—RNs*

Nursing, one of Minnesota's largest professions, is undergoing a tremendous change right now, as is health care in general. Because nursing is a large occupation, many new workers will continue to be needed every year to replace those who retire or leave the profession. On the list of occupations with the greatest number of predicted new jobs in Minnesota from 1993 to 2001 (p. 33), registered nurse ranks #4.

However, at the present time, the nursing profession and other health careers are being affected by two major forces—rising medical costs and the aging population. From 1984 to 1994, medical costs to Twin Cities area consumers, for example, rose 87%, compared to overall price increases of 39%. Add to that the fact that the baby boomers are getting older. Older people require more medical care. So the big danger is that rising medical costs, multiplied by the significantly greater numbers of people who need medical care, may overwhelm the nation economically.

To deal with these high costs, the health care industry's emphasis is on keeping patients out of hospitals or limiting the time they stay. And, presumably, the shorter the hospital stays are, the fewer RNs are needed. Thus, in 1994 & into 1995, fewer and fewer RN jobs were available.

But the situation changed halfway through 1995. Andy Calkins, spokesperson for the Minnesota Nurses Association, reiterated in February 1996 that job prospects since mid-1995 have been better than the previous period:

"Hospitals are going at full capacity right now. Virtually all are hiring. ...While we do see a decreasing of in-patient care [patients assigned beds in hospitals], the status of RN jobs is holding steady. There are fewer patients in hospitals, but they have higher acuity [more severe illness]. There's definitely a lot more out-patient treatment [patients treated at hospitals without staying overnight]. Whenever possible, hospitals are moving into out-patient. But the need for RNs in hospitals is [pretty good]. Demand is back to where it was."

And, because of the aging population, experts predict in the next 10 years the number of nurses needed will increase quite fast.

However, says Mr. Calkins, "The whole health care environment is somewhat volatile. There's still the pressure for cost containment. Hospitals are still looking at restructuring how care is delivered. But they seem to have backed off the really dramatic change that they intended—using fewer RNs & more nurse assistants... It didn't really work out as well as they planned."

A sizeable majority of RNs still work in hospitals, Mr. Calkins says, but the settings in which they practice are slowly starting to change —more will be involved in outpatient care and home care, so the percentage in hospitals will diminish somewhat, to perhaps 50%.

Nursing opportunities will grow in the following:

- preventive care; home visitation (for example, to high-risk teenage mothers);
- home health care;
- same day surgery;
- call-in services for health care plans to decide whether callers need to see a doctor or not;
- case management, that is, determining whether hospital or nursing home patients can be diverted to less costly treatments.
- nursing home care: a nursing home association says that there's a need for more & more RNs in nursing homes, due to influx of patients "who have been stabilized in a hospital & are transferred to a nursing home where they might receive further treatment such as drug therapy, occupational therapy, and physical therapy" which they may have received in hospitals in the past, at a higher cost. So nursing homes are getting them "sicker and quicker." And that necessitates employing more RNs in nursing homes "because they can perform more technical functions than other health workers."

So, if you are considering a health career, and if you have good basic abilities, don't be scared off by the continuing turmoil. As one authority said in *CityBusiness* (Sept 1994): "There will continue to be a place and role for acute care hospitals and nurses." We will definitely need a large, continuous supply of nurses and other medical workers.

In regard to training to be an RN, Mr. Calkins says that "The trend toward 4-year degrees is slowly coming; we see it down the road. That day is coming. But it's not here yet. Two-thirds of new RNs are from 2-yr. programs, because it's a much quicker way to get into the RN field, much less expense."

◆ *LICENSED PRACTICAL NURSES*

Nationally, the number of LPNs is will grow faster-than-average in response to general demand & the long-term care needs of a rapidly growing elderly population. Job prospects should remain excellent unless the number of people completing LPN training increases substantially.

An LPN union said in July 1995 that "Nursing homes especially are having trouble—they cannot find enough LPNs. As a result they're using a lot of pool help [temporary agencies], which is not satisfactory. We do not think the shortage is as great outside metro area."

An LPN association also says that "future prospects are good."

In addition, seven technical and community colleges list LPN as a field *most likely* to lead to jobs which pay relatively well.

■ HOME HEALTH CARE

◆ *HOME HEALTH AIDES*

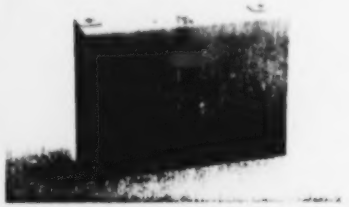
Topping the list of fastest growing occupations nationally from 1994 to 2005 are two lower-paying occupations in the burgeoning home health field:

Personal & home care aides
(119% increase 1994-2005)
Home health aide
(102% increase 1994-2005)

The average growth rate for all occupations is predicted at 14%. However, these two occupations are predicted to grow at these outstanding rates which are 8 and 9 times higher than the average rate. This high growth is due to several factors, such as:

- a substantial increase in the elderly population,
- greater efforts to provide home care for people who have long-term illness instead of assigning them to nursing homes, and
- development of in-home medical technologies.

Job opportunities are excellent. It's possible to enter this field with a short amount of training, similar to the training of nurse assistants which is a matter of weeks. Salaries however, are relatively low in comparison to other occupations —about $6.00 per hour to start.



A home care association says that home care aides will need the following 12 specific skills in order to work for employers who are certified to receive medicare payments. These skills may be gained through relatively short training at technical colleges, or through experience.

1) Communication skills
2) Observing patient's condition
3) Reading temperature, pulse, etc.
4) Basic infection control
5) Basic body functioning
6) Cleanliness & safety
7) Emergency procedure
8) Patient rights

9) Patient hygiene and grooming
10) Safe lifting technique, etc.
11) Moving/turning patient in bed
12) Nutrition and fluid intake.

◆ *NURSES IN HOME HEALTH CARE*
In regard to nurses in home health care, Debra Kildahl, official of the Minnesota Home Care Assn. says, "We're talking about RNs rather than LPNs because LPNs can't do initial assessments and plan treatment—they're not licensed to. LPNs are in home care too, but not as prevalent. For RNs, home health offers good opportunities, especially for those with public health experience or certification."
Mr. Calkins of the nurses assn. says that "Home health care is one of fastest growing fields—however, although the growth rate is high, the home health field is still quite small, so the numbers of RNs involved is not large, like 2-3% of the total number of RNs. But it is the direction health care is headed rather than acute care in hospitals. The emphasis is on shorter hospital stays, with more home visits afterward."

EXCEPT WHERE NOTED, THE FOLLOWING STATEMENTS ARE ABOUT THE NATIONAL OUTLOOK FOR SMALLER-SIZED MEDICAL CAREERS.

◆ *BIO-MEDICAL TECHNICIAN:*
One school listed Bio-Med Tech as one of their programs *least* likely to lead to related jobs. This coincides with other evidence that this is a glutted field.
◆ *CARDIOVASCULAR TECHS:* Overall employment is expected to grow more slowly than average, but technicians and technologists will experience different patterns of employment change. Employment of *EKG TECHNICIANS* is expected to decrease as hospitals train nurses and other personnel to perform basic EKG procedures. Employment of *CARDIOLOGY TECHNOLOGISTS* is expected to grow faster than average as the population ages because older people have a higher incidence of heart problems. *EEG TECHS:* Employment is expected to grow much faster than average, reflecting the increased number of neuro–diagnostic tests performed. More testing will occur as new tests and procedures are developed and as the aging population requires more medical care.
◆ *CHIROPRACTORS:* This field will grow faster than average due to rapid growth in the older population.

◆ *Emergency medical techs — EMTs:*
Employment of EMTs is expected to grow faster than average because of the increasing number of older people, who are more likely to need emergency services. Most job openings will occur due to this field's high turnover.
◆ *MEDICAL RECORD TECHS:*
Employment is expected to grow much faster than average. Demand will arise from rapid growth in the number of medical tests, treatments, and procedures, and the increasing scrutiny of medical records by third-party payers, courts, and consumers. Medical records tech is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 18th fastest), with a 35% increase.
◆ *NUCLEAR MEDICINE TECHS:*
Employment is expected to grow much faster than average. Substantial growth in the number of middle-aged and older people will spur demand for nuclear medicine tests. Technological innovations should increase the uses of nuclear medicine, further strengthening demand.
◆ *OCCUPATIONAL THERAPISTS:*
Employment is expected to grow much faster than average due to strong growth in rehabilitative services. Medical advances now make it possible for more patients with critical problems to survive and need therapy. Also, as the baby-boom generation moves into middle age, the incidence of heart attack and stroke will increase. The rapidly growing population 75 years of age and above, and disabled children entering special education programs, will spur further demand. A Minnesota home health care association says the job outlook right now for occupational therapists in home health care is good to excellent depending on geographic area (best in Twin Cities). In rural areas, employers may contract for services rather than hire. Occupational therapy is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 16th fastest), with a 37% increase.
◆ *OCCUPATIONAL THERAPY ASSISTANTS:*
The job outlook is very good. Two technical & community colleges list occupational therapy assistant as a field most likely to lead to related jobs. Occupational therapy assistant is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 8th fastest), with a 45% increase.
◆ *PHYSICAL THERAPISTS:* Job outlook is excellent, but it's extremely hard to get into available training.
◆ *PHYSICAL THERAPY ASSISTANTS (& CORRECTIVE THERAPY ASSTS.):*
Job outlook is very good. Three technical and community colleges list physical therapist assistant as a field most likely to lead to related jobs, and three said it is a field most likely to lead to jobs which pay relatively well. Physical therapy assistant is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 10th fastest), with a 43% increase.

◆ *PHYSICIAN ASSISTANTS:* Employment is expected to grow faster than average due to expansion of the health services industry and increased emphasis on cost containment & primary care. Job prospects will be excellent, especially in rural and low-income areas that have difficulty attracting physicians.
◆ *PSYCHIATRIC AIDES:* The number of jobs for psychiatric aides will grow faster than average to meet the needs of the very old and of those suffering from psychiatric and drug abuse problems.
◆ *RECREATIONAL THERAPISTS:*
Employment is expected to grow faster than average, because of expansion in long-term care, physical and psychiatric rehabilitation, and services for the disabled. The growing number of older people is expected to spur job growth for activity directors in nursing homes, retirement communities, adult day care programs, and social service agencies. Continued growth is expected in community residential facilities as well as in day care programs for people with disabilities. Job prospects are expected to be best for those with clinical experience.
◆ *RESPIRATORY THERAPISTS:*
Employment is expected to grow much faster than average because of the substantial growth in the middle-aged and elderly population. An older population is more likely to suffer from diseases such as pneumonia, chronic bronchitis, emphysema, and heart disease. Rapid growth in the number of patients with AIDS also will boost demand since lung disease often accompanies AIDS. And because more premature infants now survive, job opportunities are expected to be highly favorable for those with neonatal care skills. A Minnesota home health care association says the job outlook right now for respiratory therapists in home health care is quite good.
Two technical & community colleges list respiratory care practitioner as a field most likely to lead to related jobs, & four said it is a field most likely to lead to jobs which pay relatively well.
◆ *SURGICAL TECHS:* Much faster than average growth is expected as a growing population & technical advances increase the number of surgical procedures performed. Growth will be fastest in clinics and offices of physicians due to increased out-patient surgery; however, most jobs will be in hospitals.

More About Computer Professions

"We are finding a skill gap in the workforce," says Kathy Howson, staffing operations manager for US West in Minneapolis, discussing the current mismatch between computer skills that job-seekers possess and computer skills that employers need. "I have jobs open right now that are high paying. I just can't find the right people."

"There is a shortage," says Kathryn Facklam, recruiter for Cray Research Inc./CraySolutions. "The technical requirements frequently change. Those with the right skill sets are in high demand."

Source edp, a computer placement company, says that "to remain competitive in today's job market, MIS professionals must...keep up with the latest technology."

"Everyone is doing programming: publishing, telecommunications, software houses," according to Rick Krueger of the Minnesota Higher Technology Council. Programmers are in great demand in the Twin Cities right now, he says, and a programmer with C++ programming background "would get hired by noon here."

Companies are finding it difficult to match open computer positions to people with the right combination of skills. So they are offering incentives to employees who bring in qualified people, Krueger says. Many companies are looking outside the Twin Cities and the state, he adds. "It's a skill issue more than anything else."

So, what is the skill gap?
What skills will fill the gap?
What is the latest technology?

To answer these questions, *Career Focus* has received permission to use the following articles from two informative publications, *Source edp 1995 Salary Survey* and *1995 Twin Cities Employment Trends Newsletter*, produced by Source Services, a professional job placement company.

■ Latest Technology

Some of the latest technology, according to Source edp, is the following:

- Client/server systems;
- Local area networks (LANs);
- Relational databases;
- Distributed applications;
- Multi-tasking operating systems such as UNIX, OS/2, Windows NT, or VMS;
- Single-user workstations running graphical-user interfaces such as OSF/MOTIF or X-Windows under UNIX, Microsoft Windows, and Mac-OS;
- High-level languages and GUI development tools [graphical-user interfaces] such as Smalltalk, Visual BASIC and Powerbuilder;
- LAN technology such as TCP/IP, Decnet, Novell Netware, NT Server, or Banyan Vines;
- C or C++;
- Relational database;
- Database management systems like Sybase, Oracle, Ingres or Progress;
- LAN administration;
- Office automation support.

> **"If there's ever been a field for lifelong training, it's computer science."**
> —Dan Wagner

■ Mainframe

The mainframe will continue to be the workhorse of information processing for the next several years....The demand for mainframe development and maintenance programmers should remain steady until the late 1990s. Mainframe professionals, however, should develop additional technical skills such as DB2/SQL and get some exposure to client/server technology. Strong analytical experience supporting packages such as Dun Bradstreet's accounting system will also be important.

■ Decentralized Information Processing

More and more often non-computer personnel ("end-users") are able to do their own computing, using fourth generation languages and relational databases to develop applications without the help of computer personnel. In turn, MIS [management information systems] will create the infrastructure, regulate the flow of data within the organization and provide the facilities, tools and training that empower the end-user community.

The expanded role of the end-user in computing will challenge the MIS professional to not only be technically proficient, but also be able to communicate with users and understand their functions. MIS management will create internal consulting groups to address critical applications needs. These teams will be staffed by systems analysts who have interviewing and negotiating skills, formal structured design skills and an understanding of the firm's business. They will use CASE tools, including data analysis and modeling software prototyping tools and code generators to quickly create working models of new systems.

Additionally, the general flattening of organizational structures in MIS departments has established independent consulting as a viable career option for many [computer] professionals. These professionals work on a per project basis, and consequently should exhibit a client service attitude and be able to handle often intense project demands.

■ Impact of Open Systems

Standards in operating systems, languages & software architecture are being established. These will increase the long-term viability and ROI of software development. Open operating systems such as UNIX, MS-DOS and OS/2; open networking standards like OSI and IBM's system network architecture (SNA); and standard languages like COBOL, RPG 400, C, C++, SEQUEL and SQLi will continue to become more prevalent.
Systems professionals should learn at least one of these standard languages, understand open system concepts and concentrate on expanding their analytical skills and industry knowledge.

■ Software Growth Continues

Software development will continue to be a lucrative yet competitive market. Software companies will invest significant resources in initial product analysis, quality assurance and end-user support. The continued growth of the software industry has created a strong demand for detail-oriented software engineers who specialize in software quality control and for technical professionals who have solid customer relations skills.

■ New Technologies

New technologies abound, all centered around some sort of distributed technology: new fourth generation languages, distributed databases, GUI front ends, and lots of connectivity. The demand to build distributed systems has created a new employment group and a corresponding shortage of professionals with those skills. Together, these two major forces have created a very healthy appetite in the computer market place for skilled, talented and motivated computer professionals and managers.

■ What Skills Are Hot?

The MIS market in 1995 continues to be strong, as it has been the last few years. This has resulted in a shift from the traditional three-tier platform architectures to a two-tier platform architecture consisting primarily of IBM mainframe legacy

If you are not a computer professional, see page 69 for a discussion of the value of updating skills on personal computers (PCs), to enhance your competitiveness in the job market.

type systems and client/server technology. The mainframe plays the role of a central data warehouse or repository with the client/server platform offering graphical user interface capabilities, quick and easy information access, quick development with more power and less cost. Therefore, the majority of skills & positions today call for experience in either mainframe/legacy or client/server technology. More specifically, you can rest assured your career is headed in the right direction if you possess the following:

MAINFRAME: COBOL and CICS with DB2 or similar relational database highly preferred. CASE technology, data modeling, project leadership or project management.

CLIENT/SERVER: MS Windows or Unix platform with C or C++ and object-oriented programming. Back-end SQL Relational Database, Oracle, Sybase or Informix highly preferred.

LAN/WAN TECHNOLOGY: Novell Netware 3.1X, LAN administration, setup, implementation and troubleshooting. Knowledge of network protocols, servers, wide area products such as bridges, routers and hubs. CNE preferred.

MIDRANGE: There still remains a moderate demand for IBM AS/400, RPG/400 technology. Although this platform is not as hot as it was a year ago.

■ TYPES OF COMPUTER WORKERS

From *Source edp 1995 Salary Survey*

PROGRAMMING (Commercial):
MAINFRAME COMPUTER
Programmer
Programmer/Analyst
Senior Programmer/Analyst
MIDRANGE COMPUTER
Programmer
Programmer/Analyst
Senior Programmer/Analyst
MICROCOMPUTER
Programmer
Programmer/Analyst
Senior Programmer/Analyst
SOFTWARE ENGINEERING
Software Engineer
Senior Software Engineer

BUSINESS SYSTEMS:
Systems Analyst
Computer Consultant
EIS Analyst

DATA CENTER:
Data Center Manager
Computer Operations Operator
Senior Operator
Operations Support Tech
Senior Technician
Communications Network Operator
Senior Operator

SPECIALISTS:
Database Management
Database Analyst
Database Administrator
LAN Administrator
End User Support
PC Support Specialist
PC Analyst
System Administrator/Mgr.
Telecommunications
Voice Analysts
Data Communications Analyst
System Programmer
EDP Auditing
EDP Auditor
Senior EDP Auditor
Technical Writing
Writer
Editor
Systems Integrator

MANAGEMENT:
MIS Director/CIO
Small/Medium Shop
Large Shop
Applications Development
Technical Services
Project Manager
Project Leader

SALES:
Account Representative
Pre/Post Sales Support Rep.
Management

—End of articles from Source Services—

■ THE COMPUTER INDUSTRY IN MINNESOTA AND RETRAINING

In the mid '80s, mainframe and supercomputer manufacturing had a strong presence in Minnesota. But "computer technology shock" resulted after manufacturers downsized in the shadow of personal computers (PCs).

The current status of the state's computer manufacturing economy is disputed. One opinion forwarded by Rick Krueger of the Minnesota Higher Technology Council is that Minnesota is still strong in the manufacturing industry. The state ranks an overall fifth in the nation for number of manufacturers of computer peripheral equipment, electronic computers, computer storage devices, computer terminals, and computer & office equipment, and second in number of employed people in those same categories. (Source: *Gale State Rankings Reporter.*) Although Minnesota is no longer producing large quantities of mainframes and larger computers, the state is a huge player in the component industry, Krueger says.

Despite these rankings, the number of people employed in that industry is still down from the mid '80s, says Gil Young, technology information specialist for Minnesota Technology, Inc. The state missed the PC revolution of the late 1980s, he says, and as a result the computer manufacturing industry as a whole is declining. Minnesota is primarily a larger computer manufacturer, and the demand for larger computers is decreasing as computers become more compact and efficient. Major layoffs in the last seven years at Honeywell, IBM, Control Data and Unisys reflect that decrease.

However, although computer manufacturing may be on the decline, businesses and government agencies have increasing demand for employees with specific computer knowledge. Unfortunately, in many instances the knowledge that computer workers possess is not up-to-date. Thus the need for retraining.

"Employed people are coming back and getting what they need," says Daniel Wagner, director of academic program review for community & technical colleges. People who graduated as recently as 10 years ago are coming back to school because the computer languages they learned are now obsolete, he says. The main reason for unemployment in this field is outdated skills, Wagner adds.

"Five or ten years ago the typical major was called computer programming," says Wagner. Now, not only are there a number of short-term certificates but also a diversity of degrees offered. The certificate programs are specific to particular computer languages or skills, depending on the needs of students or employers. These certificate programs are popular because they are quick updates in areas in demand.

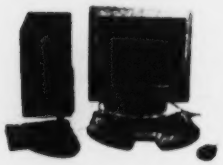
The expected length of time that computer knowledge is useful for new grads is four to five years; then they will need to return to school for more education, Wagner says. By the year 2000, that length of time is expected to reduce dramatically. "If there's ever been a field for lifelong training, it's computer science."

—Some of this text was excerpted from an article by Julie Pool in *Minnesota Economic Trends*, Winter 1995.

■ MORE ON COMPUTERS–next page 107

More About Careers in Computers, Accounting, Media

Computers—See also pp. 20, 52-53, & 68-75 Accounting—See also pp. 12, 18 Media— See also p. 24



■ MORE ON COMPUTER WORK

Nationally, *U. S. News & World Report* magazine (Oct. 1994), named systems analyst, computer scientist, computer engineer, operations research analyst, and programmer as "Hot Job Tracks" in computing. Best job chances for programming and systems analysis are at data processing services companies, software companies, & computer consultants. Insurance companies also have demand, as do banks & other financial institutions.

◆ *Computer programmers*
Nationally, the number of jobs for programmers is expected to increase faster than average as organizations seek new applications for computers and improvement to the software already in use. Employment is not expected to grow as rapidly as in the past, however, because new software and techniques have simplified or eliminated some programming tasks. A data processing association says in regard to software, "Powerbuilder is hot, as will be Smalltalk in the next year or so, and possibly Visual Basic. But new products show up so fast we will not see anything like the longevity of COBOL, although C++ is a standard language."

Career Focus believes that 4-year training in computers has become a much more sure entry into the field, basing our opinion on reports from placement offices at both 4-year and 2-year schools. Stronger competition faces grads from 2-year computer training; it may be wise to use some caution when considering two-year programs. On the other hand, a data processing association says: "Two-year grads are still finding decent jobs, although probably at lower wages [than those with bachelor degrees]. Over time, job entry requirements will shift slowly to a 4-year degree, not quickly however."

◆ *Systems analyst*
On the list of fastest-growing occupations in Minnesota, systems analyst ranks #3, with a 65% increase from 1993 to 2001.
On the list of occupations with the greatest number of predicted new jobs in Minnesota, 1993 to 2001, systems analyst ranks #7.
In a 1994 survey in Minnesota, 80% of businesses said that chances were good for persons with 4-year computer science degrees to get jobs with their companies.
Nationally, the number of jobs for systems analysts is expected to increase much faster than average as organizations demand technological advances to maximize the efficiency of their computer systems and increasingly recognize the need to design computer networks that will facilitate the sharing of information. Very favorable job prospects exist for those with advanced degrees in computer & information science.

◆ *Computer Engineers*
On the list of fastest-growing fields in Minnesota, computer engineer ranks #2, with a 67% increase from 1993 to 2001.
On the list of occupations with the greatest number of predicted new jobs in Minnesota, 1993 to 2001, computer engineer ranks #9.

◆ *Data Processing Equipment Repairer*
This is the 17th fastest-growing occupation in Minnesota, with a 40% increase, from 1993 to 2001.

■ ACCOUNTING

Nationally, faster than average growth in the number of jobs for accountants will be spurred by increases in the number of businesses & the complexity of financial information. In addition to setting up books & preparing taxes, more accountants will be needed to tailor financial information and advise management individually. Four-year degrees or grad degrees in accounting & CPAs should result in good opportunities.
U. S. News & World Report magazine (Oct. 31, 1994), named internal auditor, health care accountant, and telecommunications accountant as "Hot Job Tracks" in the accounting field, suggesting an increasing demand for those specialties.

Indications are that more & more often a 4-year degree in accounting is required to become an accountant. Eleven four-year colleges list accounting as a field most likely to lead to related jobs (*the* top-rated major). Ten 4-year colleges list as a field most likely to lead to jobs which pay relatively well (tied with engineering as top-rated major).
BUT...
Five *technical & community colleges* list accountant as a field least likely to lead to related jobs, and five list it as a field least likely to lead to jobs which pay relatively well. Furthermore, several of these two-year colleges add comments such as:
❍ A lot of jobs but very competitive; every type of postsecondary school teaches it.
❍ There are too many accounting grads from tech & community colleges & from state universities.
❍ Hard job market, lots of 2-year & 4-year grads looking at same jobs.

A job placement firm says, "For those with under 10 years experience in accounting, prospects are good, if they have a good accounting background and healthy skills. In the long term a person's career will be enhanced with a 4-yr. acctg. degree. Those with a 2-yr. degree can peak out early in their career."

A CPA association states that the "best thing an accounting student could do is to not ignore the right brain stuff in college: many, many come out well-trained in accounting, the left brain, but lacking in communication skills: writing and people skills. Students would do themselves a service by focusing more on those, in addition to accounting.

"Expertise in tax accounting is good, cost accounting is good."

■ MEDIA

Cautions exist for the following media careers:
television production tech
audio visual technician
mass media technician
media communications tech
audio records specialist
multimedia specialist
professional photographer.

◆ *Broadcast Technicians*
A union says, "A job for life with a TV station is less and less likely. TV stations are not expanding. There have been layoffs at networks but not locally. There have been buyouts though. TV stations tend to not add to their full-time staffs; prefer part-time with no benefits. For those just coming out of training the communication field is not so good. There are now two pay tracks: one low, one high. New people will start at the low with no hope of getting to the high. That's the reality."

■ PERSONAL SERVICE,
■ FOOD SERVICE,
■ PROTECTIVE SERVICE

◆ *Cosmetologists*
The cosmetology field has a reputation for being easy to enter, requiring completion of only about a year of training. On the negative side, however, it also has a reputation for attracting a large number

COSMETOLOGY—SEE ALSO P. 26 COOKING—SEE ALSO PP. 26, 44 CORRECTIONS—SEE ALSO P. 26 MACHINING—SEE ALSO P. 30

of trainees, and many, if they complete the training, receive fairly low wages to start, and many drop out after a short time in the field. Two technical & community colleges list cosmetology as a field MOST likely to lead to related jobs, but three schools list it as a field LEAST likely to lead to jobs which pay relatively well.

In spite of the negatives, there is a positive side for some people in this field. The following statements about the cosmetology field were received from an official of a cosmetologists association in July 1995:

"Present job availability is really great; there are shortages in all specialty areas. Salons have openings that they can't fill, and we expect the same a year from now. Esthetics (skin care) people and manicurists are still in demand.

"Salaries for cosmetologists are actually higher" than those generally reported. The official thought that a good person coming out of school now could expect a fair salary if you include tips. "After 3-4 yrs. if you're *really* good you could make [a lot more], but it depends on how good, and how hard a person wants to work. There's lots of part-time if you want it and you can work around a family, work three days a week, [and still make a good living]. It's also an easy, fun job.

"Those who leave cosmetology are probably not people-persons; you *do need* people skills. For some that leave, it may be being on their feet too much, some may have trouble with the chemicals used in cosmetology.

"One opportunity that people should consider is that after licensing and experience, a cosmetologist can become an education specialist. Manufacturers will hire people to go into salons and train the staff in the use of products.

"Other options are sales, teaching, big platform demos at trade shows." The association official has travelled all over the US, engaged in the above activities.

◆ *BEAUTY SALON MANAGERS*

It's not the first thing that comes to mind when the *managerial* field is mentioned but...the cosmetologist association official also says there's a shortage of beauty salon managers, because, by law, all beauty salons need managers. The association says there's a "great need," and that there "may be a shortage for a few years, unless the law is changed."

◆ *RESTAURANT COOKS*

Restaurant cook is an occupation which is growing very fast in Minnesota, as the population increases...and the trend continues to prepare fewer meals at home. Plentiful job openings, because many workers leave this field to seek other jobs.

Last year a Twin Cities school said of its food service/cook training: "No trouble getting jobs. One of best job outlooks of all programs at this school."

◆ *CORRECTIONAL OFFICERS*

Correctional officer/jailer is the 12th fastest-growing occupation in Minnesota.

A spokesperson for a correctional officers union gave the following

information in Sept. 1995:

All the union's corrections facilities are extremely busy—workers are "busted at the seams, pushed to the max, caught between the need to house convicted criminals vs. budgetary constraints. Public cry is to house the people—more toward punishment than anything. So there will be public dollars for this."

A new private prison was recently built in Appleton, and a new prison in St. Cloud is anticipated for the future, and "when a new facility opens, it means quite a bit of employment opportunity."

What enhances a person's chances of obtaining a job? "Clean record, good health, good vision, high school diploma, or advanced training is good. Jailer is more of an entry level position, so people with training beyond an associate degree would probably not be looking to get this kind of job. But an associate degree in law enforcement would be helpful and would increase chances of landing a corrections officer/jailer job."

◆ *TRAINERS OF CORRECTION OFFICERS*

People who have experience in corrections and *who are capable of training other correction officers* should have very good opportunities for good jobs. Correction officers are required to have specialized training. So, in this time of growth, the field of ***training*** the new corrections workers might be particularly lucrative. Also, salaries for trainers are fairly good.

■ PRECISION PRODUCTION CRAFTS

◆ *MACHINIST*

In the past couple of years an excellent job market has been available for the machinist trade. When state technical colleges in Summer 1995 were asked to list their programs which are most likely to lead to jobs, *machine tool* was the 2nd-most frequently mentioned program. And eleven tech colleges listed machine tool as the field with the *highest* chances of leading to jobs with good pay.

The following are comments from several knowledgeable sources:

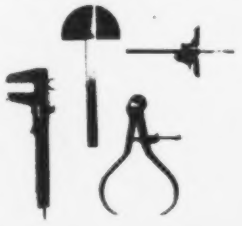
❍ An association of machine shops said in Feb. 1996 that "sixty of our members responded to a survey with 130 job openings." Most prevalent openings were for CNC machinists (computer numerical control), then general machinists. "We can't get enough people—quality people. It's hard to find 'ace' machinists who are very experienced and qualified in all areas of machining—they are very, very rare.

"And it's hard to find workers who are good at even one or two machining procedures. Or even entry level workers. Well, come to think of it, it's difficult to come across even the guys who jump from job to job; when we find them, we try to take them, and try to retrain them." In short, on all levels it's difficult to find workers.

"For 4, 5 years it's been like this: our industry goes strong for seven quarters (1.75 years) and then there's a lull for several weeks. Last June, though, that lull lasted only 2 to 3 weeks.

"Minnesota is [training] about 550 machinists per year and our industry can usually consume 1000/year. We are at that point right now."

The association goes on to say that one company has a high school apprenticeship program with a Twin Cities school, and they have a couple high school apprentices that split a 40-hour week. Because the company has such a high need for machinists, they plan to keep the students on as regular employees after they graduate.



❍ In spite of the demand, there are also warning signals for the future. In Minnesota, the machine tool trade will grow at a very slow rate of 4% until 2001, compared to the average growth rate of 12% for all occupations. Nationally the number of jobs is expected to *decrease* for both machinists and tool & die by 2005. This could be seen as a contradiction of the obvious high demand for machinists. However,

—continued on page 56—

—*Machinists* continued from p. 55

job prospects are expected to be good because employers have reported difficulties in attracting workers to the machinist trades, to replace those that retire.

❍ One technical college states that the machinist field is hard to predict because it's one of the first to be cut when the economy is tight.

❍ Another technical college states that the machinist field is good for women who want non-traditional opportunities.

❍ A union official in March 1996 confirmed earlier statements that the job outlook for machinists is "very good to excellent. We represent 20 different companies and most were having problems finding machinists. There is still a shortage. We could place people with skills on such things as lathes, drill presses, etc. We also see a trend developing that CNC training is more and more necessary. It's good to know CNC programming; you have a leg up if you know CNC, because it's showing up all over—even in grinding and metal stamping...."

In addition, "We still do have employers looking for traditional [manual] machinist, although the thrust is to computer technology. "From our perspective the outlook is very good. Employers that we deal with have found for quite a few months that they have had to look pretty hard for machinists. For example, one employer was advertising in five states for workers.

"CNC technology is a demand area. To the average person looking at a CNC operator it looks like all you're doing is pushing buttons but in reality you need to understand what's happening to a piece of metal when you're drilling it, turning it, cutting it, etc., the same as a traditional machinist would need to know.

"There are three primary CNC areas [in demand]:

❍ The CNC machine operator who also has regular machinist skills;

❍ The CNC operator who has regular machinist skills plus CNC programming skills;

❍ People who have technical capabilities to repair CNC machines — they would be like millwrights or maintenance repairers with the addition of electronic skills. A CNC repairer could be a machinist who has really excelled, advancing from operating to programming to repair and electronics."

❍ Another union official in August 1995 said that "there will be opportunities in the future for versatile machinists, primarily those that know CNC (computer numerical control). Manual machining is sliding down in popularity because work can be done so much faster with CNC machines. We encourage people to stay current with changes in the machinist field."

◆ *Tool & Die Maker:*

❍ The first machinist union above says "there's always a demand for highly trained tool & die, but not anywhere as much as machinists; there are many more machinists than tool & die workers."

❍ The 2nd union states that "there's still a demand for tool and die. One demand area is computer generated systems. Computer drawing is showing up on the shop floor now, as opposed to the drawings necessarily coming from engineers. That is, tool and die workers more and more must be familiar with producing drawings and plans using computerized systems."

■ PRINTING CAREERS

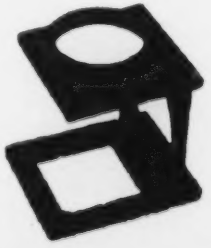
◆ *Printer, Pre-press*

See also pp. 30-31

Pre-press workers do composition of pages, typesetting, or desktop publishing before a job is put on press.

One pre-press occupation — *electronic pagination operator* — is the 7th fastest-growing occupation in Minnesota from 1993 to 2001. But there are reports both of low pay for such jobs & of many qualified job applicants.

Also, a printing union official states that "*Stripping* is rapidly going electronic and thus highly skilled manual work is disappearing. In addition, much more of the composition of pages and typesetting is being done on computers, using desktop publishing. Another factor: corporations have started doing some pre-press (composition of pages and typesetting) inside their own companies. Some workers, like perhaps a secretary, have developed skills by themselves.



This is cutting into the number of jobs in the printing industry, because that type of work was traditionally done at printing companies.

"There's a great availability of workers looking for entry level jobs in desktop publishing—many have a college degree, are skilled in desktop publishing, and are willing to accept the pay. ...There's a flood on the market."

The only real demand areas in desktop publishing are:

❍ "*Highly-skilled* desktop publishing workers: those that are heavy into software programs such as Adobe Illustrator, Photoshop, Quark, and who also know color theory and can do sophisticated manipulation.

❍ "Pagination and desktop publishing people who can become customer service reps [they talk to customers about printing jobs] or who can be sales people."

◆ *Printing Machine Operator*

See also pp. 30-31

One printing industry spokesperson says that entry level positions are available in *binderies*, but few people like the entry wages of $7-8 per hour, and the jobs are not very glamorous — but workers can advance from there. Also, companies are offering entry level training in pressrooms — where jobs pay more and where a person starts as a helper, is trained, and eventually is promoted to *printing press operator*.

A printing association says the field of "*flexographic machine operators* is growing quite fast" (involves a flexible plate which prints on bread packages, cartons, packaging). And running big presses such as Heidelbergs results in high pay.

■ CONSTRUCTION

See also pp. 32-35

◆ *Painters, Paperhangers*

A union said in Fall 1995 that in the last two years their 500-member union has never had more than 20 painters laid off at one time. They expect the same a year from now, because jobs are so far behind. In fact, demand for painters was so high in the summer of 1995 that new St. Paul Technical College painting students were allowed to work for contractors as special "pre-apprentices."

Another union says "For trained painters with good work habits, the market is good. Not as good for the untrained." They expect the demand to be pretty strong for 1 to 2 years, but that it's hard to predict farther out because "the market is volatile. It depends on the amount of construction dollars spent. But...the better trained, more diversified workers with good work habits will lose little time being unemployed."

◆ *Bricklaying*

An association of brick companies says that job prospects for bricklayers are *excellent* now and for the coming years, primarily because "the current population of brick masons is in their 50s — they're an aging group. Young people are needed in the field, through apprenticeship and school....Only one state vo-tech school is feeding bricklayers into the job market."

■ DRIVING

See also pp. 34-35

◆ *TRUCK DRIVING*

In 1993 and 1994 the nation had been suffering from a shortage of truck drivers which was getting a lot of publicity. But by Summer 1995 the demand for truck drivers tapered off, even though some observers think it's just a temporary lull and that demand will climb back up soon. In Minnesota truck driving is still predicted to have the 6th-largest number of new jobs of all occupations from 1993 to 2001.

❍ A union said in Feb. 1996, "Right now it's kind of slow. Oh, there's always a need for people who are willing to work for next to nothing —for example, we have a standing offer of jobs driving for a company that transports persons with physical difficulties. The jobs pay $6 per hour to start, and go up to $8. But they do have good benefits. Jobs like that might be okay for people that have other sources of income. There's a bunch of those companies around who are busing persons with physical problems. We think there are 1300 drivers doing this in the Twin Cities area and turnover is tremendous, so there are always jobs." And, despite the low pay, it *is* a way to get driving experience. "You go through the drug testing, they train you right on the job, & even though they call the job part-time, you get 50 hours a week. And eventually you can move up from there.

"But as far as finding good solid driving jobs that pay $15-20 an hour with full benefits, it's pretty unlikely at the moment. Last year at this time, I had employers begging for drivers, but not now."

In the long run, the union rep says, "We believe there'll be a shortage, partly because the restrictions are tougher: drug tests will preclude some people from driving jobs, and if you've had a DWI or a couple of speeding tickets in the last two or three years, then chances aren't too good.

"....Two keys are having a clean driving record and passing drug tests. ...Good drivers don't have to look for jobs—people call *them*. But it's stagnant right now, except for those lower-end jobs where there's always a lot of turnover."

❍ Another union said in Fall 1995: "Normally there is a shortage of ***qualified*** drivers, that is, those with a CDL [Commercial Drivers License], in good physical condition, and drug-free & alcohol-free. However, at the moment some of the large carriers are downsizing."

❍ A trucking industry association said in February 1996: "Because of the state of the economy [hiring is] fairly slow. 1994 was a very strong year for the trucking industry, but it tapered off through 1995."

However, the association still anticipates driver shortages for large trucking companies that haul goods nationwide, pointing to American Trucking Association claims that there will be a shortage of 300,000 drivers in the USA for ***each*** of the next 10 years. Much of the shortage will probably be due to the lack of drivers who are willing to be out over-the-road for possibly two weeks at a time, with long hours. Competition is expected for jobs that offer the highest earnings or best working conditions.

"The chances for a recent graduate getting a job are excellent if you are willing to drive interstate. You must be 21, although some insurers want someone with three to four years experience, so they require a minimum age of 26 to 28."

◆ *SCHOOL BUS DRIVERS*

An official for a school employee union said in March 1996 that in the Greater Minnesota area outside the Twin Cities, "We're seeing a real shortage of drivers, ever since the CDL (Commercial Driver's License) requirements took effect along with the drug check and the background check. And the wages haven't kept up with those requirements. Some districts are screaming for drivers, and most districts are short of substitute drivers. There's not an abundance of candidates for jobs....Pay in the outstate might average $10 /hour if working for school districts," but pay is lower at subcontractors.

A spokesperson for Ryder Bus Co. in the metro area said in March 1996, "There's still opportunity for drivers, but not a shortage to the extent that it was last year. We're still looking for drivers continuously, but that's not unusual in our industry, due to significant turnover. So we're still aggressively recruiting. We're probably in a fair situation rather than good. We're coming off a terrible year last year, when the office staff was filling in driving, sometimes every day." The company pays $8.50 to start with the possibility of bonuses, up to $11/hr. Drivers can work from 1 to 3 shifts per day, guaranteed 2 hours for the morning shift, one for the noon shift, and two for the afternoon shift. Those who drive the morning and afternoon shifts often get 7 to 8 hours/day. Parents may take up to two preschool children on the bus with them, subject to approval by the company.

One large suburban school district in the Twin Cities says, "There's still a shortage—it's not as severe as before but it still exists. The biggest problem is that school bus driving is part-time." They have three contractors who handle the training of the drivers. Drivers undergo a criminal background check and drug testing, and receive their drivers license after passing several written tests and one driving test. Salary range is $9.50 - $11/hour.

■ SALES & MARKETING

See also pp. 36-39

There is an indication of a surplus of *commission sales people* in Minnesota. Some companies may need fewer commission salespeople, due in part to the use of technologies, such as voice mail, paging systems, cellular telephones, fax machines, and laptop computers, which help each worker to accomplish more. Mastering the use of these technologies may be wise.

Nationally, *U. S. News & World Report* magazine (Oct. 1994), named the following as "Hot Job Tracks" in the sales field, suggesting higher demand in these specialties:

Merchandise planner/distributor
Preferred customer representative
Travel sales
Home health care sales.

◆ *BUSINESS SERVICES THAT MIGHT NEED "SALES"*

For the past few years there's been much talk about the growth of businesses which provide *services* (contrasted with businesses which produce material goods—that is, factories & construction companies). *Services sales* has been touted as a field whose time has come.

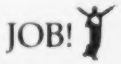
Confusion remains, however, over what the term *services sales* means. The following is a list of services which might need *services sales workers*, that is, people to find customers and convince them to buy the services.

❍ Health Services
  Examples: nursing homes, home health services
❍ Personnel Supply
  Example: temporary employment agencies
❍ Financial Services
  Examples: loans, charge accounts, investments
❍ Advertising
❍ Computer Processing
❍ Insurance
❍ Real Estate
❍ Travel
❍ Recreation & Entertainment
❍ Lodging
❍ Transportation & Utilities
❍ Building Maintenance
❍ Credit Reporting
❍ Bookkeeping
❍ Security
❍ Printing
❍ Storage Space

Will One to Two Years of Education Lead to a Job?

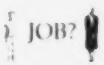
The charts on pages 58 to 60 are based on information provided to *Career FOCUS* in August 1995 by job placement officers at twenty-three technical colleges and eight community colleges. Training programs at these schools generally last one to two years. Job placement officers at all large post-secondary schools in the state were asked to update their responses to a survey that *Career FOCUS* originally did in late 1994. They were asked to respond again to the following four statements:

1. Comparing all your program offerings, list three to five programs that you see as ***most likely*** to lead to *jobs related to the program.*

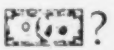


2. Comparing all your program offerings, list three to five programs that you see as ***most likely*** to lead to *jobs which pay relatively well.*

3. Comparing all your program offerings, list three to five programs that you see as ***least likely*** to lead to *jobs related to the program.*



4. Comparing all your program offerings, list three to five programs that you see as ***least likely*** to lead to *jobs which pay relatively well.*



Each chart shows how many schools listed each major or program, in answer to one of the four questions above. For example, **Licensed Practical Nurse** (see Chart #1) was listed by thirteen two-year colleges as *"most likely* to lead to related jobs." **Machine Tool** was listed by twelve.

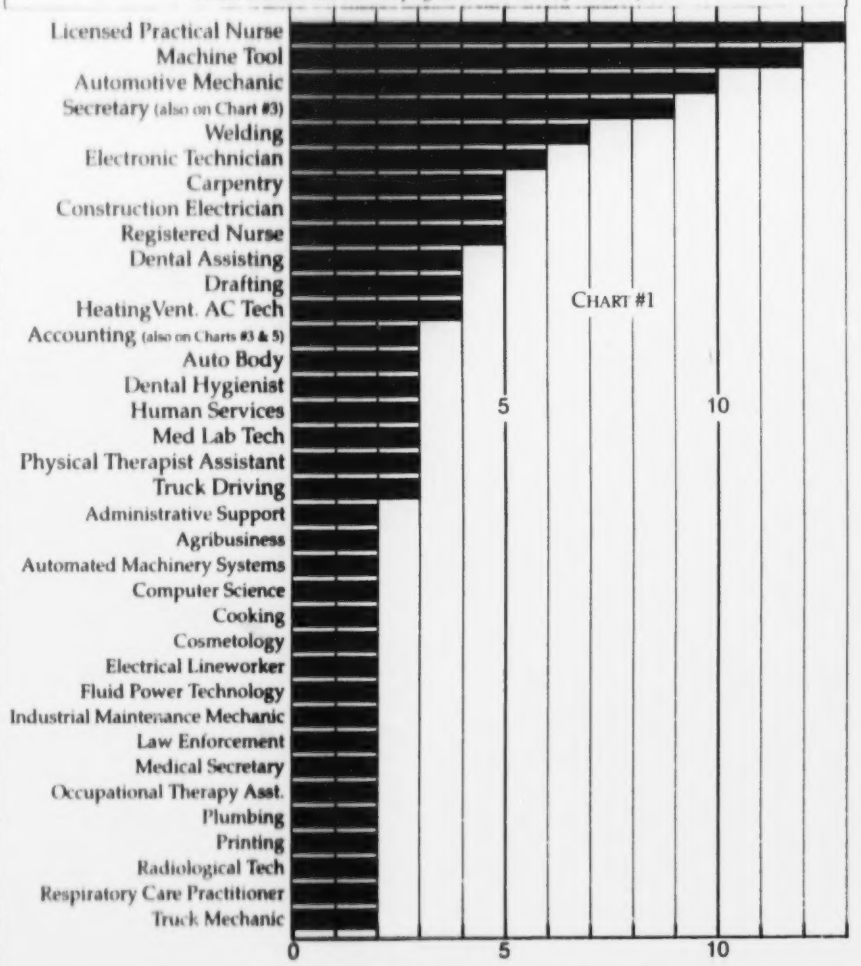
Some programs are listed on what appear to be opposing charts. For instance, **Secretary** is listed on both Chart #1 *(most likely* to lead to jobs) and Chart #3, p. 60, *(least likely* to lead to jobs). The explanation may be simply that the experience of different schools is different. But the secretarial field has a confusing outlook because it is an occupation going through much change—after years of growing steadily until it was one of the largest occupations, it's now almost certainly going to have fewer and fewer new jobs in the future, primarily because computers not only allow each secretary to do more work, but they also permit other workers—who in the past assigned work to secretaries—to do more of their own clerical work. Many job openings will still occur because each year a fair number of the 50,000 secretaries in Minnesota will retire or leave the field for other reasons, and they will need to be replaced.

And **Accounting** is listed as a program *"most likely* to lead to jobs" both by two-year colleges and by four-year colleges (See Chart #1 on this page & Chart #5 on page 61). However, on page 60, in Chart #3, **Accounting** is identified by many schools as a two-year college program *least likely* to lead to jobs. In this case, although *some* two-year schools are still seeing enough jobs for their graduates, it appears that more and more often a 4-year degree is required to gain work as an accountant *(Career FOCUS* has heard that requirement from employers as well).

JOB!

Technical & Community College Programs *Most Likely* to Lead to Related Jobs

Number of schools that listed the program as one most likely to lead to jobs

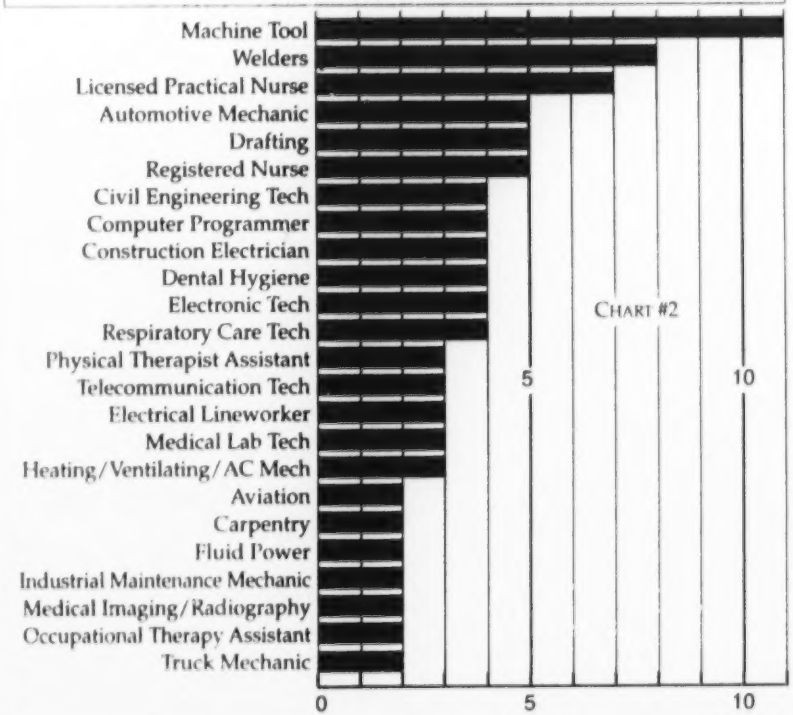


Will One to Two Years of Education Lead to Good Pay*?

Career FOCUS estimates that "good pay" for graduates of technical & community colleges probably means starting at from $9 to $12 per hour just coming out of training, and earning $12 to $15 or more after several years experience (based on wage information for workers in these occupations).

Technical & Community College Programs *Most Likely* to Lead to Jobs Which Pay Relatively Well.

Number of schools that listed the program as one most likely to lead to good pay



Also mentioned once as most likely to lead to good pay:

Accounting
Agriculture Sciences
Automated control technology
Band Instrument Repair
Brick & Block
Building Mechanic
Business Mgmt. — But see Chart #4, p. 60
Business Micro Computer
Cable TV Tech
Cardiovascular Tech
Chemical Technician
Dental Assistant
Electric Motor Tech
Electronic Systems
Environmental Tech
Forest Mgmt./Wildlife (Natural Resources Tech)
Heavy Construction Equipment Mechanic
HVAC Design—Heating/Ventilating/Air Cond.
Information Processing: Accounting & Secretarial
Instrumentation
Law Enforcement
Legal Assistant
Machine Tech
Medical Secretary
Metallurgy
Metrology
Most Medical areas
Natural Resources
Non-Destructive Testing
Paralegal
Physical Damage & Claims Adjusting
Pipefitting
Plumbing
Pre-Accounting
Pre-Engineering
Pre-Pharmacy
Printing and Graphics Production
Refrigeration
Robotics
Swine Production
Sales Management
Tool & Die
Water Resource Tech
Water/Wastewater Technology

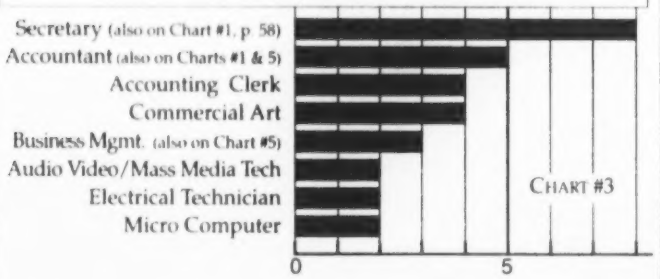
Continued from Chart #1
Also mentioned once as most likely tech & comm. college programs to lead to jobs:

ADN
Agricultural Lab Technology
Agricultural Production Mgmt.
Allied Health Programs
Aviation
Band Instrument Repair
Broadcasting
Building Inspection
Building Mechanic
Business Management
Cable TV Technology
Child Development
Chiropractic Tech
Civil Engineering Tech
Credit & Finance
Diesel Mechanic
Educational Assistant
Electronic Systems
Electric Motor
Fashion Merchandising
Floriculture
HVAC Design (not HVAC Tech)
Health Unit Coordinator
Hospitality Management
Information Processing: Accounting
Instrumentation & Process Control
Lab Tech & Mgmt.: Food Science
Legal Assistant
Machine Tech
Metallurgy
Metrology
Microcomputer Specialist
NAR
Natural Resources
Natural Resources: Forest Mgmt./Wildlife
Non-Destructive Testing
OPRV
Office Information Processor
Optical
Paralegal
Parks & Recreation: Interpretation
Refrigeration
Robotics Technology
Security Mgmt. & Locksmithing
Solid Waste Management
Travel
Wilderness Management

Some Workers May Have Trouble Finding a Job Or Good Pay, Even After One to Two Years of Education

Tech & Community College Programs *Least Likely* to Lead to Related Jobs

Number of schools that listed the program as one least likely to lead to jobs



Also mentioned once as least likely to lead to jobs:

Advertising
Air Traffic Control
Auto Machining
Aviation
Bank Teller
Bio-Med Tech
Clerk Typist/Office
Commercial Baking
Data Entry Clerk
Construction Electrician
Electronic Music Tech
Financial Credit Services
Fire Tech
Human Services
Law Enforcement
Legal Assistant
Legal Secretary
Major Appliance Repair
Meat Processing
Multi-Housing
Natural Resources
Natural Resources: Law Enforcement
Powerline
Property Management
Radio Broadcasting
Sales and Marketing
Supervisory Management
Travel Planner
TV Production
Water/Wastewater

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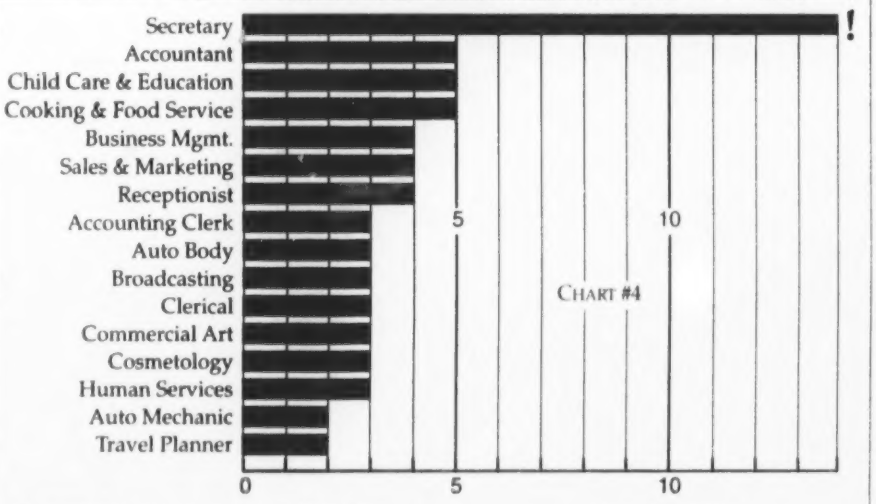
Tech & Community College Programs *Least Likely* to Lead to Jobs Which Pay Relatively Well.

Number of schools that listed the program as one least likely to lead to good pay



Also mentioned once:

Apparel Arts
Advertising
Audio Visual Tech
Baking
Bank Teller
Commercial Photography
Customer Service
Data Entry
Developmental Needs Assistant
Fashion Merchandising
Information Processing
Interior Design
Licensed Practical Nurse
Medical Assistant
Medical Secretary
Natural Resources: Law Enforcement
Nurse Assistant
Parks & Recreation
Parts Sales/Service
Supermarket Mgmt.
Watch Repair

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WILL A FOUR–YEAR COLLEGE EDUCATION LEAD TO A JOB?

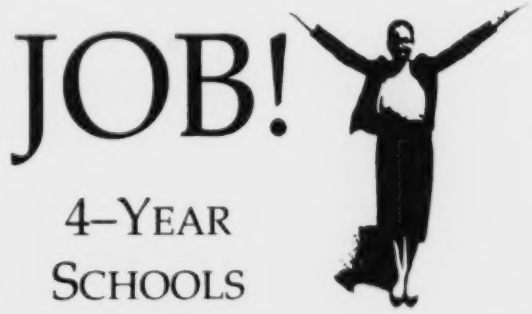
In Summer 1995 *Career FOCUS* asked the job placement officers at all large post-secondary schools in the state to update their 1994 responses to the four statements on page 58. Updates were received from 21 four–year colleges. Their responses to statements 1 & 3 are depicted in the charts below.

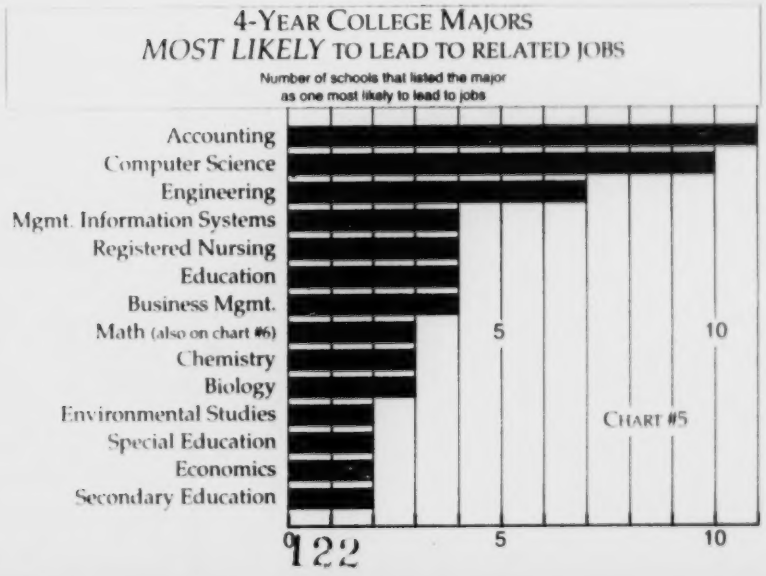
Each chart shows how many times each major or program was listed by schools in response to statements #1 & #3 on page 58. For example, in Chart 5 below, **Accounting** is listed by eleven different four–year colleges as *"most likely* to lead to related jobs." **Computer Science** was listed by ten schools.

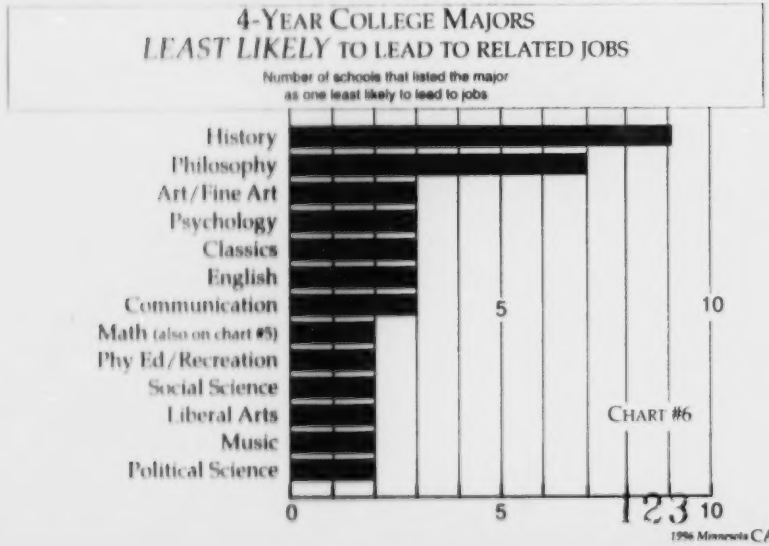
It is somewhat confusing that some programs are listed on what appear to be opposing charts. For example, **Accountant** is listed on this page in Chart #5 (4–year college majors *most likely* to lead to jobs), but in the opposing Chart #3 on page 60 (2–year college programs *least likely* to lead to jobs). In this case, the explanation is quite likely that, more and more often, a 4–year degree is required to gain work as an accountant. It gets more confusing when 4–year **Math** is listed on both Charts #5 & #6 on this page. Here the explanation may simply be that the experience of different schools is different. But whatever the reason, math has an ambiguous outlook, so the outlook for students majoring in math is some good, some bad.

By presenting these charts, *Career FOCUS* is not claiming that one major or program is *better* than another—there are good reasons for choosing a field of study other than for potential jobs and pay (*history*, for example, is *interesting*). But, some fields appear to be more effective than others in preparing for *employment*. And if one of the primary goals of your education is a job, it may be wise to look at information such as that which is presented on this page.

And double majors are an option—one personal major and one practical major.







TECHNICAL COLLEGES

Career-oriented instruction, much of it "hands on".
The aim is to get students started in their chosen careers within 10 to 23 months.
Small classes (average 18 students per class).

Contact the Technical Colleges nearest you or call: 1-800-657-3555 or Twin Cities: 612-296-6481

Albert Lea Campus of **South Central Technical College**
2200 Tech Drive
Albert Lea, MN 56007
507-373-0656
1-800-333-2584
550 students

Alexandria Technical College
1601 Jefferson St.
Alexandria, MN
56308
320-762-0221
1-800-253-9884
2000 students

Anoka-Hennepin Technical College
1355 W. Hwy 10
Anoka, MN 55303
612-427-1880
1-800-247-5588
1900 students

Austin Campus of **Riverland Technical College**
1900-8th Avenue NW
Austin, MN 55912
507-433-0600
1-800-247-5039
700 students

Bemidji Campus of **Northwest Technical College**
905 Grant Ave. S.E.
Bemidji, MN 56601
218-755-2233
1-800-942-8324 550 students

Brainerd Technical Campus of **Central Lakes College**
300 Quince St.
Brainerd, MN 56401
218-828-5344
1-800-247-2574 950 students

Brooklyn Park Campus of **Hennepin Tech College**
9000 Brooklyn Boulevard
Brooklyn Park, MN 55445
612-425-3800
1-800-345-4655 1500 students

Canby Campus of **Southwestern Technical College**
1011 - 1st Street W.
Canby, MN 56220
507-223-7252
1-800-658-2535 290 students

Central Lakes College:
See Brainerd & Staples

Dakota County Tech College
1300 East 145th Street
Rosemount, MN 55068
612-423-2281
1-800-548-5502 1800 students

Detroit Lakes Campus of **Northwest Technical College**
900 Highway 34 East
Detroit Lakes, MN 56501
218-847-1341
1-800-492-4836 700 students

Duluth Technical Campus of **Lake Superior College**
2101 Trinity Road
Duluth, MN 55811-3399
218-722-2801
1-800-432-2884 1800 students

Dunwoody Institute**
**Not a state technical college
818 Dunwoody Boulevard
Minneapolis, 55403
612-374-5800 1-800-292-GOAL

East Grand Forks Campus of **Northwest Tech College**
Hwy 220 N., PO Box111
East Grand Forks, MN 56721
218-773-3441
1-800-451-3441 800 students

Eden Prairie Campus of **Hennepin Tech College**
9200 Flying Cloud Drive
Eden Prairie, MN 55347-2600
612-944-2222
1-800-345-4655 1500 students

Eveleth Campus of **Range Technical College**
1100 Industrial Park Drive
Eveleth MN 55734-0648
218-744-3302
1-800-345-2884 400 students

Faribault Campus of **Riverland Technical College**
1225 SW 3rd Street
Faribault, MN 55021
507-334-3965
1-800-422-0391 460 students

Granite Falls Campus of **Southwestern Tech College**
1593 11th Avenue
Granite Falls, MN 56241-9902
320-564-4511
1-800-657-3247 450 students

Hennepin Technical College:
See Brooklyn Park & Eden Prairie

Hibbing Campus of **Range Technical College**
2900 East Beltline
Hibbing, MN 55746
218-262-7200
1-800-433-9989 600 students

Hutchinson Campus of **Willmar - Hutchinson Technical College**
Two Century Avenue
Hutchinson, MN 55350
320-587-3636
1-800-222-4424 600 students

Jackson Campus of **Southwestern Tech College**
401 West St.
Jackson, MN 56143
507-847-3320
1-800-658-2522 450 students

Mankato Campus of **South Central Technical College**
1920 Lee Blvd.
North Mankato, MN 56003
507-389-7200
1-800-722-9359 1600 students

Minneapolis Tech College
1415 Hennepin Ave.
Minneapolis, MN 55403-1778
612-370-9400 2800 students
1-800-247-0911 MN only

Moorhead Campus of **Northwest Tech College**
1900 - 28th Avenue S
Moorhead, MN 56560
218-299-6512
1-800-426-5603 1100 students

Northeast Metro Tech
3300 Century Avenue N
White Bear Lake, MN 55110
612-770-2351
1-800-228-1978 1700 students

Northwest Technical College:
See Bemidji, Detroit Lakes, East Grand Forks, Moorhead, Wadena

Pine Technical College
1000 4th St.
Pine City, MN 55063
612-629-6764
1-800-521-7463 400 students

Pipestone Campus of **Southwestern Tech College**
North Hiawatha Ave.
P.O. Box #250
Pipestone, MN 56164
507-825-5471
1-800-658-2330 450 students

Range Technical College:
See Eveleth & Hibbing

Red Wing Technical College
Highway 58 & Pioneer Road
Red Wing, MN 55066
612-388-8271
1-800-657-4849 460 students

Riverland Technical College:
See Austin, Faribault, Rochester. Also includes Owatonna Technical Training Center

Rochester Campus of **Riverland Technical College**
1926 College View Rd. S. E.
Rochester, MN 55904
507-285-8631
1-800-247-1296 900 students

St. Cloud Technical College
1540 Northway Drive
St. Cloud, MN 56303-1240
320-654-5089
1-800-222-1009 3100 students

St. Paul Technical College
235 Marshall Avenue
St. Paul, MN 55102
612-221-1370
1-800-227-6029 2400 students

South Central Technical College: See Albert Lea & Mankato

Southwestern Tech College:
See Canby, Granite Falls, Jackson, Pipestone

Staples Technical Campus of **Central Lakes College**
1830 Airport Road
Staples, MN 56479
218-894-1168
1-800-247-6836 600 students

Thief River Tech Campus of **Northland College**
Highway 1 East
Thief River Falls, MN 56701
218-681-0701
1-800-959-6282 700 students

Wadena Campus of **Northwest Technical College**
PO Box 566
405 Colfax Avenue SW
Wadena, MN 56482
218-631-3530
1-800-247-2007 600 students

Willmar Campus of **Willmar-Hutchinson Technical College**
PO Box 1097
Willmar, MN 56201
320-235-5114
1-800-722-1151 1200 students

Winona Technical College
1250 Homer Road
Winona, MN 55987
507-454-4600
1-800-372-8164 975 students

COMMUNITY COLLEGES

Community colleges have many two-year "career" programs which train students for specific occupations. They also provide the first two years of many four-year degree programs. Contact the school nearest you or 612-296-3990. (TDD 612-282-2660)

TWIN CITIES AREA

Anoka-Ramsey Community College
11200 Mississippi Boulevard NW
Coon Rapids, MN 55433
612-427-2600 (5000 students)

Cambridge Community College Campus of
Anoka-Ramsey Community College
33270 Polk St. NE 55008
612-689-7000 (900 students)

Inver Hills Community College
2500 East 80th Street
Inver Grove Heights, MN 55076
612-450-8500 (5500 students)

Lakewood Community College
3401 Century Avenue
White Bear Lake, MN 55110
612-779-3200 (6000 students)

Minneapolis Community College
1501 Hennepin Av., 55403
612-341-7000 (4500 students)

Normandale Community College
9700 France Avenue South
Bloomington, MN 55431
612-832-6000 (8500 students)

North Hennepin Community College
7411-85th Avenue North
Brooklyn Park, MN 55445
612-493-0581 (6500 students)

NORTHWEST MINNESOTA

Brainerd Campus of Central Lakes College
501 W. College Dr., 56401
218-828-2525
1-800-933-0346 (1300 students)

Fergus Falls Community College
1414 College Way, 56537
218-739-7500 (1200 students)

Northland Community & Technical College
Highway 1 East
Thief River Falls, MN 56701
218-681-0701
1-800-959-6282 (1000 students)

Crookston University of Minnesota
Now has both 2-yr & 4-yr programs
Crookston, MN 56716
218-281-6510
1-800-232-6466 (1300 students)

SOUTHERN MINNESOTA

Austin Community College
1600 NW 8th Av., 55912
507-433-0505
1-800-747-6941 (1300 students)

Rochester Community College
851 30th Av. SE, 55904-4999
507-285-7219 (4000 students)

Willmar Community College
Co. Rd. 24, P.O. Box 797, 56201
320-231-5199 (1400 students)

Worthington Community College
1450 College Way, 56187
507-372-2107
1-800-657-3966 (800 students)

NORTHEAST MINNESOTA

Fond du Lac Community College Campus of
Mesabi Community College
2101 14th St.
Cloquet, Mn 55720
218-879-0800
1-800-657-3712

Hibbing Community College
1515 East 25th Street, 55746
218-262-6700
1-800-224-4422 (700 students)

Itasca Community College
1851 East Highway 169
Grand Rapids, MN 55744
218-327-4460
1-800-996-6422 (1300 students)

Lake Superior College - East Campus
1309 Rice Lake Road
Duluth, MN 55811
218-723-4796 (700 students)

Mesabi Community College
1001 Chestnut St. W
Virginia, MN 55792
218-749-7700
1-800-657-3860 (1300 students)

Rainy-River Community College
1501 Hwy 71
International Falls, MN 56649
218-285-7722
1-800-456-3996 (800 students)

Vermilion Community College
1900 E. Camp St.
Ely, MN 55731
218-365-7200
1-800-657-3608 (800 students)

BEST COPY AVAILABLE

PART I: FALL 1995 TECHNICAL COLLEGES AND

Use a ruler or a magic marker to help read this chart.
See footnotes on the right side of the next page.
X means that the course is offered at the school named at the top of the column.
B means that **both** listed courses are offered.
* means the school is in the Twin Cities area.

	NAME OF SCHOOL	Albert Lea Tech	Alexandria Tech	Anoka-Henn. Tech*	Austin Tech	Bemidji Tech	Brainerd Tech	Canby Tech (SW)	Dakota County Tech*	Detroit Lakes Tech	Duluth-Lk. Superior	East Grand Fks. Tech	Eveleth Tech	Faribault Tech	Granite Falls (SW)	Henn.: Brooklyn Pk.*	Henn.: Eden Prairie*	Hibbing Tech	Hutchinson Tech	Jackson Tech (SW)	Mankato Tech	Minneapolis Tech*	Moorhead Tech	NortheastMetroTech*	Pine Tech	Pipestone Tech (SW)	Red Wing Tech	Rochester Tech	St. Cloud Tech	St. Paul Tech*	Staples Tech	Thief River-Northlnd	Wadena Tech	Willmar Tech	Winona Tech
MEDICAL	Registered Nurse																															X			
	Licensed Practical Nurse		X	X	X	X	X		X	X	X	X	X	X		X	X		X		X	X			X	X	X	X	X	X		X	X	X	X
	Nurse Assistant				X	X			1c	X	X	X	X	X		X	X	X	9b			X			X	X		X	X			X	X		X
	Hosp.Unit Coordinator(Ward Clerk)											X				X										X		X		X					
	Medical Assistant			X					X			X												X		X			X				X		
	Physical Therapy Assistant	X		X							X	X																							
	Occupational Therapy Assistant			X							X	X																							
	Medical Laboratory Technician		X								X	X		X				X								X				X					
	Radiology (X-Ray, Medical Imaging)				X							X																							
	Respiratory Tech (Breathing)										X	X						X												X					
	Chiropractic Technician											X															X								
	Surgical Technician			X							X	X															X	X							
	Health Technologies - Specialized			1a							1i	1b								1s	1j	1d	1i	1e		1t		1i	1i	1p			1j	1m	
	Dietetic Technician (Hosp.Food)		1w																					X											
	Medical Secretary(S)/Med.Records(R)	S	S	B		S	S		S	S	S	S			S		S		S	1u	S	S	B	S	S			S	S	S		B	S	1u	S
	Dental Assisting					X	X	X	X							X		X			X		X	X					X	X					
	Optical Occupations (Eye glasses)			4a									X		X															X					
BUSINESS OFFICE	Accounting	X	X			X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
	Bookkeeping / Accounting Clerk	X		X		X	X	X	X	X	X	X		X	X	X	X		X	X	X			X	X	X	X	X	X			X	X	X	X
	Microcomputer Specialist	X	X		3i	X	X	X	X	X	X	X			X	X	X	X			X	3i	X	X	X		X		X	3h		X	X	X	X
	Secretary & / or Word Processing	X	X	X	X	X	3c	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
	Business Management	z	Z	z	Z	z	Z	Z	z	Z	z			z	z	Z	Z	Z	Z	z	Z		Z	z	z		Z	z	Z	z		Z	Z	z	
	Management Fields - Specialized	2d	2a	2b		3i	2u		2f	2e	2q								2d						2t		2h		2g	2i				2d	2d
	Banking & Finance & Credit		X				X					X			3k	3f										X		X	X				8i		
	DataProcessing:ComputrProgr./Oper.		X						X		X				3n		X				X	X	X		X		X	X	X	X					X
	Data Entry (Computer keypunch)									X				X								X	X						X	X			X			X
	Receptionist/Office Assistant/Typing	X	X	X		X		X	X	X	X	X	X	X	X	X	X		X	X	X	X	3g	X	X	X	X	X	X	3g		X	3g		X
	Real Estate & Property Sales/Mgmt								X											X									X						
	Paralegal/Legal Asst(Pa) Legal Secretary(U)	U	U	U	U	U	U		U	U	U				U	U	U		U	3j	U	U	U	U			U	U	U		B		3j	U
RETAIL STORES &	Retail Store Management/Merch.	X				X	X		X		X			X		X	X		X		X	X		X					X				X	X
WHOLESALE TRADE	Clothing Store Management/Sales	X	X			X			X	X	X										X	X	X	X					X			X			
	Retail Stores Mgmt. - Specialized		X				3w		3x							3y										2h									
	Parts Sales & Service (Autos)					X						X					X												X			X	X		
	Retail Store Salesperson	X	X			X			X		X			X	X	X	X		X		X	X		X					X					X
	Professional Sales Representative	X	X						X	X	X				X	X	X		X		X			X					X			X		X
	Sales Management	X	X						X		X			X		X	X	X			X		X	X					X			X	X	X
	Marketing(W) & Advertising(Y)		W											W									B						Y			W		W	
	Marketing / Trade - Specialized												6g		6c															6a				6d		
TRAVEL & DINING	Hotel and Restaurant Management		X							2e					6i																				
	Travel Planner (K) / Aviation (J)	K	5a	6z			K		K																										
GRAPHICS ARTS	Drafting: Mechan. (M) / Arch. (C)	M	4n	B					C	C	B			M		B	B		M		C	C	I	M				M	4h	B	M	C		M	M
(see next 2 pages)	Printing, Graphic Communication				X			X	X				X			7b	7b				X			X					X	X	X				

1996 Minnesota CAREER FOCUS

COMMUNITY COLLEGES (see also pp. 66-67)

"Career" Programs Only. Does not include "non-career" majors. Also see the map and addresses on pages 62 & 63.

X means that the course is offered at the school named at the top.
B means both listed courses are offered.
* means the school is in the Twin Cities

NAME OF SCHOOL	Anoka-Ramsey *	Austin CC	Brainerd CC	Fergus Falls CC	Hibbing CC	Inver Hills CC *	Itasca CC	Lakewood CC *	Mesabi CC	Minneapolis CC *	Normandale CC *	North Hennepin *	Northland CC	Rainy River CC	Rochester CC	Vermilion CC	Willmar CC	Worthington CC	U of M Crookston	CC Centers: Cambridge (c), Duluth (d), Fond du Lac (f)
Registered Nurse	X	X	X	X	X	X		X		X	X	X	X		X		X	X		cd
Licensed Practical Nurse			X	X			X						X	X				X		f
Nurse Assistant							1c						X	X						
Hosp.Unit Coordinator(Ward Clerk)																				
Medical Assistant															X					
Physical Therapy Assistant	X	X																		cd
Occupational Therapy Assistant	X	X																		cd
Medical Laboratory Technician				X	X							X			X					d
Radiology (XRay, Medical Imaging)		X						X			X	X			X		X			d
Respiratory Tech (Breathing)															X					d
Chiropractic Technician																				
Surgical Technician																				
Health Technologies - Specialized	1f			1g		1v		1h			1i	1k			1r				1n	1q
Dietetic Technician (Hosp.Food)								X			X								X	
Med.Secretary(S)/Med.Records(R)	B	S	S	1u		S	S					R	B	S	S			1u		1q
Dental Assisting			X								X									
Optical Occupations (Eye glasses)	X								2m											c
Accounting	X	X	X	X		X	X	X		X	X	X	X	X		X	X	X		all
Bookkeeping/Accounting Clerk			X				X	X				X		X		X	X	X		cd
Microcomputer Specialist		3d	X			X		X		3i		3d	X							cd
Secretarial &/or Word Processing	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X		all
Business Management	X	X	X	X		X	X	X		X	X	X	Z	X	X			X	X	all
Management Fields - Specialized	2c	2d	2p			2j			2m	3a	2a	2n			2r		2d		2s	2k
Banking & Finance & Credit																				
DataProcessing:ComputrProg/Oper						X		X		X	X			X						d
Data Entry (Computer keypunch)																				
Receptionist/Office Assistant/Type			3b			3b	X		X		X			X						
Real Estate & Property Sales/Mgmt						X											3e	X		
Paralegal/Legal Asst(Pa) Legal Secretary(U)	U	U	U	3j		B	Pa	3j	Pa			Pa	B	U	U			3j		2k
Retail Store Management/Merch.			X			X						X								d
Clothing Store Management/Sales						X					X				X					d
Retail Stores Mgmt. - Specialized			3w								6k									
Parts Sales & Service (Autos)												X								
Retail Store Salesperson																				
Professional Sales Representative													X							
Sales Management						X							X						X	d
Marketing(W) & Advertising(Y)	W	W			W	W		W	W	W	W	W	W		W				W	c
Marketing/Trade - Specialized		6b			6g	6e	6f	6f	6h	6f	6f	6f			6f					
Hotel and Restaurant Management											X			X		X			X	
TravelPlanner(K) / Aviation(J)	6y		K			6y										J			J	6y
Drafting: Mechan.(M) / Arch.(C)	B	M			M						M	B	C		M			M		4j
Printing, Graphic Communication																				

X means that the course is offered at the school named at the top.
B means that Both programs are offered.

Health Technologies
1a EEG Technician
1b Pharmacy Tech
Emergency Med Tech
Paramedicine
Cardiovascular Tech
Hospital supply tech (Central services)
1c Nurse Assistant
Home Health Aide
1d "911" Communicator
1e Pharmacy Tech &
Dental hygienist
Dental Lab Tech &
Orthotics/Prosthetic
& Intensive Paramedic
1f NeuroDiagnosticTech
DiagnosticSonography
1g Histology Tech
1h Orthotics, Prosthetics, Paramedic, Pharmacy, Dental Hygiene
1i Dental Hygiene
1j Paramedic
1k NonInvasiveCardiolgy
1m Veterinary Tech &
Medical Coding Spec.
1n Equine Science
Horse Care
1p Central Services Tech, Med. Transcriptionist, Medical Coding Spec.
1q NeuroDiagnosTech-Cam
Diagn.Sonography-Cam
Med secrtry-Dul,Cam
Med records-Cambr
Dental Hygiene-Dulth
1r Clinical Neurophysical
Dental hygiene
Paramedic Tech
1s Medical Coding Spec.
1t Veterinary Office Mgt.
Habilitative Aide
1u Medical Admin Secrty
1v HealthCareMid-Mgmt
1w Dietary Manager

Management Careers
2a Office Systems&Mgmt
Hotel/Restarnt Mgmt
Supervisory Mgmt
Computer networking
2b Aviation Administr.
2c Golf Facilities Mgmt.
OfficeSystemsMgmt.
2d Supervisory Mgmt
2e Franchise Restaurant
2f Property Mgmt
Supervisory Mgmt
2g Production&inventory
Postal service mgmt
2h Arena & Recreation Management
Supervisory Mgmt
2i Freight Trans Mgmt
2j Financial Mgmt
HealthCare MidMgmt
Supervisory Mgmt
Technical Mgmt
Supermarket Mgmt
2k Postal serv mgmt-Dul
Supervisor mgmt-Dul
Legal secrtry-Dul,Cam
Security mgmt-Cambr
Office supe/mgr-Cam
Golf Faclty Mgmt Cam
Office Sys. Mgt-Camb
2m Optical Management
2n Manufacturing Mgmt
Transportation Mgmt
Administrative Mgmt
Financial Management
2p Financial Management
Supervisory Mgmt.
2q Postal Management
Supervisory Mgmt
2r Office Systems Mgmt.
Supervisory Mgmt
2s Office Systems Mgmt.
Information Mgmt
2t Security management
2u Entrepreneurial Mgmt
Supervisory Mgmt.

Other Office Careers
3a Postal Service
911&Emerg.Operator
3b Personnel Assistant
3c General Secretary &
Desktop Publishing Sec.
3d NetworkCommunicatn
3e Appraiser
3f Bank Teller
3g Reception/Offce Asst
Personnel Asst.
3h Micro&Mini computer programmr/operator
Network Admin/Engr
3i ComputrNetwrkAdmin
3j Legal Admins. Secrtry
3k InsuranceServiceAssoc
3n Office Information Tech

Special Retail Mgmt.
3w BothHorticult.&Landscp. plus Floral Design & GreenHouseProduction
3x Supermarket Mgmt.
3y Retail Floral/Florist
3z Visual Merchandisng
Interior Design Sales
4a Optical Technician

Drafting
4h Architectural Drafting
ComptrDrafting&Mfg
Drafting&Design Tech
4j Civil-Cambr, Duluth
Graphic Drafting-Dul
4n Mechancl. Drafting
ComputerizedMapping
5a Avionics

Special Marketing
6a World Trade Tech
6b Telemarketing Mgmt
6c Customer Serv Tech
6d Vehicle service advisor
Electronics sales
PhotographySalesServ
6e Business service mktg
World trade tech
6f Business service mktg
6g Call Center Sales Spec
6h Business service mktg
Call Center Sales Spec
6i Casino Technician
6k Electronic sales

Aviation
6y Aviation &
Air Traffic Control &
Aircraft Dispatcher
(also at CambridgeCC)
6z Aircraft Dispatcher
7b See footnote #7b, p. 67
8i See footnote #8i, p. 67
9b See footnote #9b, p. 67

B Both courses offered.
C Architectural Drafting
I Electrical Drafting
J Aviation
K Travel Planner
M Mechanical Drafting
Pa Legal asst.. or Paralegal
R Medical Records
S Medical Secretary
U Legal secretary
W Marketing
Y Advertising
Z Business Mgmt, plus Small Business Development Center
z Small Business Development Center (No Degree awarded)

CommunityCollegeCenters
c CambridgeCC Center
d DuluthCommColCenter
f Fond du LacCC Center

PART II: FALL 1995 TECHNICAL COLLEGES &

Use a ruler or a magic marker to help read this chart.
See footnotes on the right side of the next page.
X means that the course is offered at the school named at the top of the column.
B means that **both** listed courses are offered.
* means the school is in the Twin Cities area.

	NAME OF SCHOOL	Albert Lea Tech	Alexandria Tech	Anoka–Henn. Tech*	Austin Tech	Bemidji Tech	Brainerd Tech	Canby Tech (SW)	Dakota County Tech*	Detroit Lakes Tech	Duluth–Lk. Superior	East Grand Fks. Tech	Eveleth Tech	Faribault Tech	Granite Falls (SW)	Henn.: Brooklyn Pk.*	Henn.: Eden Prairie*	Hibbing Tech	Hutchinson Tech	Jackson Tech (SW)	Mankato Tech	Minneapolis Tech*	Moorhead Tech	NortheastMetroTech*	Pine Tech	Pipestone Tech (SW)	Red Wing Tech	Rochester Tech	St. Cloud Tech	St. Paul Tech*	Staples Tech	Thief River–Northlnd	Wadena Tech	Willmar Tech	Winona Tech
GRAPHICS & MEDIA (see previous 2 pages)	Commercial Art & Design		X					7h	X	7c			X			7b	7b				X	X	X						X	7e			7a	
	Photography / Photo Technology							7h	X								X					X								X			X	
	Radio/TV Broadcasting Technician				X		7d				X						X														X			
	Video & Audio Production/Technol.				X											X	X		X			X	7g	X					7i					
	Interior Design & Sales		X						3z														X	X											
DRIVERS	TruckDriver (T) or TruckMechanic (G)		T		T				B	G	B	B				G								B		T		G	G	G	O				T
& VEHICLE	Auto(A) or Diesel(D) Mechanics	B	B	A	8g	8h	A	B	A	B	B	B	A			B	8f	B	A	A	A	A	B	A	A			B	B	B	D	A		A	A
MECHANICS	Auto Body Repair			X	X		X		X	X	X				X	X	X			X	X			X					X			X		X	X
	Mechanic:(E)HeavyEquip / (V)Aviation				E				E				E					E	V			V								8j	E	V			V
	Small Engine Repair		X	X			8j			8k				X			8m							X						8j					
TECHNICAL	Engineering Technician																5i			5t				5r										
	Electronics Tech or Electrical Tech		5a	X	X						5b			5c		X	X	5d		X	X		X				X	X	X		X	X	X	X	X
	Biomedical Equipment Tech									X							X	X		X													X		
	Fluid Power Technolgy/Hydraulics		X												X	X	X																		
	Manufacturing Technicians		4q	4a							4d		4b		4r	4c	4f		4e		4d			4g	4k			X	4h	4f	4r					4i
	Civil Tech/Highway Tech/Surveyor									X	X						X				X								X	X					
	Telephone or Communications Tech																			5h			7g									5a	5f	5g		
	Lab Tech: Chemicl(Q)/Environmt(N)	5k					N										N							B					5m	Q					
MECHANICAL	Industrial or Building Mechanics	X		X						X			X				X				X			X			X	X				9z		X
& REPAIR	Heating and Cooling Mechanics															X	X	X		X	X	X	X	X			X		X						
& SHOP CRAFTS	Major Appliance Repair																			X				X						X					
	Repair Occupations - Specialized																8m			8d		8b		8a	4k		8c			8e				8i	
	Machine Tool		X	X	X				X		X			X	X	X	X		X		X	X		X	X			X	X	X	X			X	X
	Welding		X	X		X	X		X			X	X	X		X	X		X		X		X				X		X		X		X		
CONSTRUCTION	Carpentry		X		X	X					X	X	X	X		X	X				X					X	X	X	X				X		
	Electrician	X		X				X			X							X			X	X	X						X						
	Plumbing																			X									X						
	Other Construction Trades								8p		8w					8q	8r			8n		8t							8u	8y		8x			
HUMAN SERVICE	Child Development & Care						X		X		X				X	X	X		9b			X		X	X		9c	X	X	X			X		
	Recreation																																			
	Human Services			X			9g	9g						X					9b		X				9j	9k		X		9a		X			
	Law Enforcemt(P)/Fire Protection(F)		P									F				F	F	P				1d						F				P			
AGRICULTURE	Agribusiness: Farm Supplies/Equip.							X													X												X		
	Farm Production/Farm Management	X	9n			X		X		X		X							X		9q		X		X		X		X		X		X		
	Farm Equipment Mechanics				X			X				X									X														
	Meatcutting/Sausagemaking								X																	X									
	Horticulture(H) / Landscaping(L)		9n	9m			3w		B							L								H			B							
	Forest & Natural Resources						X	9s																	5q										
SERVICE	Clothing Services/Tailoring/Mending																					X								X					
OCCUPATIONS	Hair Design or Hair Cutting				X																	9w		9y		9w				9y		X	X	9w	X
	Food Service or Cook or Chef		1w	X					X	X						X	X	X			X	X	X					X	X						
	Custodial Services																																9z		

COMMUNITY COLLEGES (see also pp. 64-65)

Career Programs Only. Does not include *non-career* majors.
Also see the map and addresses on pages 62 & 63.
X means that the course is offered at the school named at the top.
B means **both** listed courses are offered.
* means the school is in the Twin Cities

NAME OF SCHOOL	Anoka-Ramsey *	Austin CC	Brainerd CC	Fergus Falls CC	Hibbing CC	Inver Hills CC *	Itasca CC	Lakewood CC *	Mesabi CC	Minneapolis CC *	Normandale CC *	North Hennepin *	Northland CC	Rainy River CC	Rochester CC	Vermilion CC	Willmar CC	Worthington CC	U of M, Crookston	CC Centers: Cambridge (c), Duluth (d), Fond du Lac (f)
Commercial Art & Design		X				X						X								
Photography / Photo Technology																				
Radio/TV Broadcasting Technician		X	7d			X							X		X		X			
Video&Audio Production/Technol.	X									7f										c
Interior Design & Sales						X														
(T)ruckDriver/(G)TruckMechanic																				
Auto(A) or Diesel(D) Mechanics	A	B	A			A						A	A					A		c
Auto Body Repair			X			X							X					X		
Mechanic:(E)HeavyEquip / (V)Aviation													V							
Small Engine Repair			8j																	
Engineering Technician											5s				5p					
Electronics/Electrical Tech		X									5e	X	X		X			X		d
Biomedical Equipment Tech				X							X									
Fluid Power Technolgy/Hydraulics												X								
Manufacturing Technicians			4f			4f		4g	4b			4p			X			4s		4k
Civil/Highway Tech/Surveying															X					
Telephone/Communications Tech													5a					5h		
Lab Tech: Chem(Q)/Environmt(N)								N			B			Q		5n				
Industrial or Building Mechanics																				
Heating and Cooling Mechanics	X																	X		c
Major Appliance Repair																				
Repair Occupations - Specialized																		8d		4k
Machine Tool																				c
Welding			X										X							
Carpentry																				
Electrician																		X		
Plumbing																				
Other Construction Trades						8v						8v						8n		
Child Development & Care			X			X		X		X					X				X	
Recreation			X													X				
Human Services		X				9e		9d	9d	9d			X	X	X		X	X		f
Law Enforcemt(P)/Fire Protectn(F)		P	P	P	P	P		P		P	P	B	P		P	P	P			9f
Agribusiness: Farm Supplies/Equip.																	X	X	X	
Farm Production/Farm Managemt.													X				X	X	9p	
Farm Equipment Mechanics																				
Meatcutting/Sausagemaking																				
Horticulture(H) / Landscaping(L)			3w			B									H				H	
Forest & Natural Resources			X				X								X	9r			X	
Clothing Services/Tailoring/Mending																				
Hair Design/Hair Cutting													X							
Food Service/Cook/Chef					9x	9x														
Custodial Services																				

X means the course is offered at named school
B means that **Both** programs are offered.

1w Dietary Manager
3a Postal Service
911&Emerg.Operatr
3w Both plus Floral Design & Green House
3y Retail Floral/Florist
3z Visual Merchandisng Interior Design Sales

Manufacturing Techs
4a Optical Technician
4b AutomatedControlTech Optical Lens Making
4c Computer Manufactring Laser Technology Plastics Technology
4d CNCmach progrmmer
4e Artificial Intelligence Metallurgical Tech Metrology(qual.control) NonDestructiveTestng Industrial Manuf. Tech
4f Robotics Tech or Automated Manufact.
4g Quality Control Tech Research&DevelopTech
4i Composites (plastics)
4j Civil-Cambridg, Duluth Graphic Drafting-Dul
4k Gunsmithing&Lock-smithing-also at CambCC
4n Mechanical Drafting ComputerizedMapping
4p Plastics Technology Powder Metal Tech
4q Manuf. Engineer Tech
4r Manuf Engineer Tech Robotics Tech Automated Manuf. Tech
4s System Control Tech
4t Instrumentation Tech

Electronics Techs
5a Avionics
5b Electronics Tech & Electrical Technology
5c Electronic Business Mach.
5d Microcomputer Tech
5e Computer Tech
5f Cable TV Tech & Telecommunications & Telephone Service
5g Mobile Communicatn.
5h Telecommunications
5i Electromechanical tech

Laboratory Techs
5k Lab Tech:Food Science Environmental Tech
5m Water/WasteTreatment
5n Water Resources Waste Management

FOOTNOTES

Other Technicians
5p Mech. Engineer.Tech Electronic Engr.Tech Civil Engineer Tech
5q Taxidermy Technician
5r Hazardous materials
5s Mech. Engineer.Tech
5t Wind Energy Tech

Graphics & Media
7a TechnicalArt/Illustrtn.
7b Commercial Art Printing Electronic Publishing plus Color Prepress atHenn.: Brook. Park
7c Neon Sign Fabricating Sign Lettering Design
7d Radio Broadcast only
7e Commer.Art& Design Electronic publishing
7f Video. Also Film Making
7g Electronic communication
7h Digital Photo Imaging
7i Multimedia Tech

Repair Trades
8a Upholstery
8b Upholstery Jewelry Manuf/Repair
8c Musical Instrument Repair: 1) Strings 2) Electronic 3) Band 4) Guitar
8d Electric Motor Repair
8e Watch & Clock Repair
8f Auto Machinist & Auto Mechanics
8g Auto Industrial Mech Ag Diesel Mechanic
8h Auto Machinist & Auto Mechanic
8i Collision appraisal & Claims adjusting Auto service advisor
8j Outdoor Power Recreational Vehicles
8k Small EngineMechanic Marine Engine Tech
8m Marine/Motor Tech

Construction
8n Power Line Tech Electric Utilities Tech
8p Wood Finishing Electrical Lineworker
8q Painting/Decorating Cabinetmaking
8r Bricklaying Cabinetmaking
8t Cabinetmaking
8u Painting/Decorating; Cabinetmaking Sheet Metal Pipefitting
8v Building Inspection
8w Woodfinishing
8x Electrical Line Tech
8y Heavy Equipment Construction Mgmt.

Human Service
9a Sign Language Interpreter/transliter.
9b Educational Asst. Activity Dirctor-Seniors In-Home Care
9c Professional Nanny
9d Human Services Chemical dependency
9e Human services Sign Lang. Interpreter
9f Fire protection-Duluth LawEnforcemnt -Fond Family Servce Finance Assistant-Cambridge
9g FamServFinancialAsst.
9j FamServFinancialAsst. Paraprof. Social Wrkr.
9k Habilitative Aide & HumanDevelpmt Asst

Agriculture
9m Landscape, & Horticulture, & Golf Course Maint. & Turf Management
9n Aquaculture & Farm Management
9p Agronomy/Soils & Animal/Dairy Science
9q Also Swine Prod. Mgt.
9r Parks and Recreation Seasonal Park Ranger Wilderness Management
9s Soil & Water Conservatn.

Personal Service
9w Barber & Cosmetology
9x FoodService Mgmt
9y Cosmetology& Manicurist

9z Building Services Tech
A Auto Mechanics
B Both courses offered.
D Diesel Mechanics
E Heavy Equip.Mechanic
F Fire Protection
G Truck Mechanics
H Horticulture
L Landscaping
N Environmental LabTech
O HeavyEquip Operator
P Law Enforcement
Q Chemical Tech, or Industrial Lab Tech
T Truck Driver
V Aviation Mechanic

CommunityCollegeCenters
c CambridgeCC Center
d DuluthCommColCenter
f Fond du LacCC Center

ATTRACT *ATTENTION* WITH SHORT-TERM TRAINING

Want to attract an employer's attention?

Update your skills with coursework.

Unfortunately, if you're out of work, that's easy to say, not so easy to do. You probably don't have the luxury to spend months or years in full-time training. An alternative is to obtain short-term or part-time training which may enhance your attractiveness to possible employers. Short-term training will probably not, in and of itself, result in a new career, but it's a way to add skills that are in demand to your resume'. A multitude of short training programs are available, many of them dealing with the use of personal computers.

On this page and the following pages, *Focus* has listed the following types of short-term training:

SHORT-TERM PERSONAL COMPUTER (PC) TRAINING
SHORT-TERM TRAINING FOR COMPUTER PROFESSIONALS
OTHER SHORT-TERM TRAINING (NON–COMPUTER)
CUSTOMIZED TRAINING
COMMUNITY EDUCATION
FOUR-YEAR COLLEGES WITH SHORT-TERM TRAINING

Note: Inclusion on this list is not an endorsement of any particular training program — if we discovered that a program existed we included it. And, conversely, exclusion from this list does not imply any judgement on our part. Our intention was to start a listing of short-term training possibilities, in response to a request from dislocated worker counselors to do so. We hope it's useful.

The creators of this list do not pretend that it is comprehensive and, due to staff limitations, know that it may include some inaccuracies. We'd appreciate if readers will contact us to tell us of any inaccuracies or additions.

Our thanks to Louis Huether and the Employment Action Center for the basis of this list and much of its content.

SHORT-TERM PERSONAL COMPUTER (PC) TRAINING

COMPUTER ADMINISTRATIVE SUPPORT

(Examples: MS/Project, MS/Schedule)

Advantage: User	561-3393	Brooklyn Park
Ameridata	290-4300	St. Paul
Benchmark	896-6800	Edina
Catapult Software	920-0016	Edina
Copeland Buhl and Co.	473-0273	Wayzata
ExecuTrain	921-8844	Bloomington
Firstaff	893-7555	Bloomington
Firstaff	371-8245	Mpls.
Firstaff	223-5528	St. Paul
Inacomp	828-6723	Eden Prairie
Institute for Adv. Technology	831-9257	Edina
Key Educational Services	545-8319	Golden Valley
Micro Knowledge	560-9733	BrklynPark/Mtnka
OPM	946-1100	Eden Prairie
Productivity Point Internatl.	884-0710	Bloomington
St. Thomas Mgmt Center Mpls	962-4600, 1-800-328-6819 ext 2-4600	

COMPUTER-AIDED DESIGN

(Examples: AutoCad, Pro/Engineer)

Anoka-Hennepin Tech Coll.	427-8359	Anoka
CentralLakesCollege-Staples	218-894-3726	1-800-247-6836
Dakota County Tech College	423-8470	Rosemount
Data Source	844-1400	Edina
Digital Resources	885-0116	Bloomington

Dunwoody Institute	374-5800	Minneapolis
Hennepin TC - Brooklyn Pk.	425-3800	1-800-345-4655
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Minneapolis Rehab Center	879-5435	Minneapolis
Northland—Thief River Falls	218-681-0793	1-800-959-6282
Northwest Technical Institute	944-0080	Eden Prairie
Northwestern College	631-5100	St. Paul
Parametric Technology Inc.	449-5232	Minnetonka
Pine Tech College, Pine City	629-6764	1-800-521-7463
Rand Technology	935-6898	Minnetonka
Red Wing Technical College	338-8271	1-800-657-4849
St. Paul Technical College	228-4306	St. Paul
Tech Central	921-3380	Edina

COMPUTER DATABASE MANAGER

(Examples: dBASE 3+ or 4, Access, Paradox, FoxPro)

Advantage: User	561-3393	Brooklyn Park
Albert Lea PIC Office	507-373-4398	
Albert Lea Technical College	507-373-0656,	1-800-333-2584
AlternativeTrainingSolutions	434-8311	Andover
Alto Consulting and Training	942-9101	Mpls.
Ameridata	290-4300	St. Paul
American Indian OIC School	341-3358	Mpls.
Anoka-HennepinTechCollege	427-8359	Anoka
Anoka-Ramsey CC	422-3303	Coon Rapids
ApplicationDevelopersTraing	943-1363	Mpls.
Augsburg Weekend College	330-1743	Minneapolis
Bridge Data	933-3336	Minnetonka
Catapult Software	920-2657	Edina
CentralLakesColl.-Brain.Tech	218-828-5344	1-800-247-2574
Computer City Supercenter	896-6484	Edina
Computer Learning Center	639-6227	New Brighton
Computer Skills Inst.	644-7880	St. Paul
Computer Training Internatl.	378-0665	Mpls.
Computer U	641-0744	St. Paul
Computers Don't Byte	218-722-5051	Duluth
Connect Education Services	947-43820	Eden Prairie
Dakota County Tech College	423-8254	Rosemount
Data Source	844-1437	Edina
Davis Thomas Assoc.	591-6122	Minneapolis

—COMPUTER DATABASE MANAGER continued—

Desktop Computer Trainers	721-4134	Mpls.
Earle Brown Center	624-2713	St. Paul
Electronic Easel	659-2444	St. Paul
ExecuTrain	921-8844	Bloomington
ExpertEase Software Training	551-9778	Plymouth
Firstaff	893-7555	Bloomington
Firstaff	371-8245	Mpls.
Firstaff	223-5528	St. Paul
Hagen Micro Age	866-3441	Richfield
Heglund's PC Services	780-4027	Lexington
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Honeywell Adult Education	951-0004	Mpls
Henn.Tech (Customized Tr.)	944-2222 X3513	Eden Prairie
Hopkins Community Ed	988-4072	Eisenhower CC
HRD Resource Group	690-5458	St. Paul
Hutchinson Tech College	320-587-3636	1-800-222-4424
Inacomp	828-6723	Eden Prairie
Institute for Adv. Technology	831-9257	Edina
Inver Hills Comm. College	450-8500	InverGroveHts
Key Educational Services	545-8319	Golden Valley
KRS Computer	938-8823	St. Louis Park
Lakewood Comm. College	779-3200	White Bear Lk.
Mankato Technical College	507-389-7200	1-800-722-9359
Manpower Training Dept.	375-0240	Mpls.
Marco Business Products	612-259-3000	St. Cloud
Metro II	686-6800	Mendota Hgts
Metro StateUniv.Mpls/StPaul	772-7611 or	341-7234
Micro Knowledge	560-9733	BrookPk-Mtnka
Minneapolis Tech College	370-9400	Mpls.
Nordberg Consulting	937-0426	Eden Prairie
Normandale Comm. College	832-6320	Bloomington
NorthHennCC Mgmt Institut	424-0880	Brooklyn Park
North Henn. Comm. College	424-0702	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk
Northland—Thief River Falls	218-681-0793	1-800-959-6282
Office Information Systems	884-9199	Bloomington
OPM	946-1100	Eden Prairie
PC Support center	334-3242	Minneapolis
Premier	831-2960	Edina
Productivity Point Internatl.	884-0710	Bloomington
Red Wing Technical College	338-8271	1-800-657-4849
Resolution	628-9844	Roseville
St Catherine's Weekend Coll.	690-6542	St. Paul
St. Paul Technical College	228-4306	St. Paul
Science Museum	221-4722	St. Paul
Small Business Assistants	891-3234	Apple Valley
Teamsters Service Bureau	221-1365	St. Paul
Technology Learning Center	297-5549	St. Paul
UMD Cont Ed & Extension	218-726-8113	Duluth

—continued on next page—

PERSONAL COMPUTER SKILLS

If you're a job-seeker looking for office work at any level—manager, professional, clerical—then it is nearly essential to make sure that your skills on personal computers (PC's) are current, if you are to be competitive in the job market.

You do not need to learn to be a computer programmer.
You do not need to be a computer whiz.

But it's likely that you *do* need to:

◆ be able to navigate yourself through an office computer system (Windows 95 and future versions of Windows, like it or not, will probably be the standard systems for several years).

◆ be somewhat proficient at typing—lack of this skill will limit your speed and effectiveness and your capacity for further computer use. The inability to type will also frustrate you in your efforts to update your computer skills.

◆ be proficient in at least one but preferably three or four computer applications, such as word processing, databases, spreadsheets, networks, and desktop publishing.

◆ understand the functions & value of word processing, databases, spreadsheets, networks, etc.

◆ have at least some familiarity with equipment and its potential value: printers, scanners, CD-ROM drives, fax modems, etc.

◆ be active and very flexible about obtaining new personal computer skills, taking advantage of opportunities to get retraining.

Many office workers who are seeking new employment can improve their appeal to new employers by picking up computer skills, whether the skills be word processing (computerized typing) or spreadsheets (numerical calculations) or databases (data storage & retrieval systems). In fact, much of the short-term training available involves computers, ranging from the above to network management and programming languages.

Almost all public technical and community colleges offer computer classes of varying levels and breadth. Contact the schools for class offerings—phone numbers and addresses, pp.62-63.

4–YEAR COLLEGES WITH SHORT TERM TRAINING

ST. CATHERINE'S Weekend College 690-6542

UNIVERSITY OF ST. THOMAS Mgmt Center 962-4600

BEMIDJI STATE UNIVERSITY External Studies 1-800-475-2001, ext. 2738 218-755-2738

UNIVERSITY OF MINNESOTA 625-3333
—Continuing Education & Extension

ST. CLOUD STATE UNIVERSITY
—Continuing Education 320-255-3081

BETHEL COLLEGE 635-8000
—PACE Program for Adult College Education

NORTHWESTERN COLLEGE
—Distance Education Program 631-5494

CONCORDIA-ST.PAUL Adult Learning
—Degree Completion Program 641-8863

UNIVERSITY OF MINNESOTA - DULUTH
—Continuing Education 218-726-8113

UNIVERSITY OF MINNESOTA - MORRIS
—Continuing Education 1-800-842-0030

MPLS. COLLEGE OF ART AND DESIGN
—Continuing Education 874-3760

70 UPDATE YOUR PERSONAL COMPUTER SKILLS. LOOK BETTER IN THE JOB MARKET.

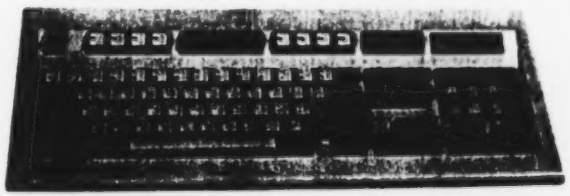
—continued from previous page—

COMPUTER INTEGRATED SOFTWARE
(Examples: MS/Office, MS/Works)

Alto Consulting and Training	942-9101	Mpls.
Anoka-HennepinTechCollege	427-8359	Anoka
Anoka-Ramsey CC	422-3303	Coon Rapids
Avastar	884-5377	Bloomington
Catapult Software	920-0016	Edina
CentralLakesColl.-Brain.Tech	218-828-5344	1-800-247-2574
Computer C.A.T.	871-4306	Mpls.
Computers Don't Byte	218-722-5051	Duluth
Dakota County Tech College	423-8254	Rosemount
Desktop Computer Trainers	721-4134	Mpls.
Edina Comm. Education	220-4644	Edina
ExecuTrain	921-8844	Bloomington
Hagen Micro Age	866-3441	Richfield
Hennepin TC - Brooklyn Pk	425-3800	1-800-345-4655
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Inacomp	828-6723	Eden Prairie
Inver Hills Comm. College	450-8500	Inver Grove Ht
Itasca CC - Grand Rapids	218-327-4460	1-800-996-6422
Lakewood Comm. College	779-3200	White Bear Lk
Mankato Technical College	507-389-7200	1-800-722-9359
Marco Business Products	320-259-3000	St. Cloud
North HennCC MgmtInstitut.	424-0880	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk
Productivity Point Internatl.	884-0710	Bloomington
Red Wing Technical College	338-8271	1-800-657-4849

COMPUTERS, INTRODUCTORY: PCs, KEYBOARDING

AlternativeTrainingSolutions	434-8311	Andover
Austin Technical College	507-433-0600	1-800-247-5039
COMPUSA	635-4050	Roseville
Courage Center (disabilities)	520-0528	Golden Valley
Courseware Development	824-6099	Mpls.
Custom Training	788-3188	Columbia Hgts
Digital Resource	885-0116	Bloomington
Hire Dynamics	786-7479	Coon Rapids
Index Computers	447-1040	Prior Lake
Institute for Adv. Technology	831-9257	Edina
Inver Hills CommCollege	450-8500	Inver Grove Ht
ItascaCommCol, GrandRpds	218-327-4460	1-800-996-6422
Key Educational Services	545-8319	Golden Valley
KRS Computer	938-8823	St. Louis Park
Lake SuperiorCollegeDuluth	218-722-2801	1-800-432-2884
Lakewood Comm. College	779-3200	White Bear Lk
Marco Business Products	320-259-3000	St. Cloud
Micro Knowledge	560-9733	BrookPk-Mtnka
Minneapolis College of Art & Design	874-3765	
Minneapolis Rehab Center	879-5435	Mpls.
Minneapolis Tech College	370-9400	Mpls.
NationalAdvancement Corp.	714-754-7110	California
Normandale Comm. College	832-6320	Bloomington
North HennCCMgmtInstitut.	424-0880	Brooklyn Park
North Hennepin Comm.Coll.	424-0702	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk.
Open U, Inc.	349-9273	Minneapolis
OPM	946-1100	Eden Prairie
Pacer Computer (disabilities)	827-2966	Mpls.
Premier	831-2960	Edina
Productivity Point	341-0750	Minneapolis
Productivity Point	884-0710	Bloomington
Rand Technologies	935-6898	Minnetonka
Rasmussen—Eagan	612-687-9000	1-800-852-6367
Red Wing Technical College	338-8271	1-800-657-4849
St Catherine's Weekend Coll.	690-6542	St. Paul
St. PaulTC/Teamsters Service	228-4325	St. Paul
St. Paul Technical College	228-4306	St. Paul
Science Museum	221-4722	St. Paul
Teamsters Service Bureau	221-1365	St. Paul
Technology Learning Center	297-5549	St. Paul



COMPUTERS, INTRODUCTION TO,
PLUS WORD PROCESSING & SPREADSHEETS)

Albert Lea PIC Office	507-373-4398	Albert Lea
Albert Lea Technical College	507-373-0656	1-800-333-2584
Anoka-HennepinTechCollege	427-8359	Anoka
Anoka-Ramsey CC	422-3303	Coon Rapids
Augsburg Weekend College	330-1743	Minneapolis
Austin Comm. College	507-433-0505,	1-800-747-6941
Bemidji Technical College	218-755-2233	1-800-942-8324
Cambridge College Center	612-689-7000	Cambridge
CDI Computer Academy	851-0066	Bloomington
CentralLakesColl.-Brain.Tech	218-828-5344	1-800-247-2574
Central Lakes Coll. -Staples	218-894-3726	1-800-247-6836
CompuConnect	507-388-7121	Mankato
Computer Knowledge	507-537-9554	Marshall
Computer Skills Inst.	644-7880	St. Paul
Computers Don't Byte	218-722-5051	Duluth
Courseware Development	824-6099	Mpls.
Dakota County Tech College	423-8254	Rosemount
Detroit Lakes Tech College	218-847-1341	1-800-492-4836
District 742 Comm. Ed	612-251-1733	St. Cloud
Duluth Business University	218-722-3361	Duluth
Earle Brown Continuing Ed	624-2713	St. Paul
EastGrandForks TechCollege	218-773-3441	1-800-451-3441
Electronic Easel	659-2444	St. Paul
Eveleth Technical College	218-744-3302	1-800-345-2884
ExecuTrain	921-8844	Bloomington
Firstaff	893-7555	Bloomington
Firstaff	371-8245	Mpls.
Firstaff	223-5528	St. Paul
Fond du Lac Comm. Col.Ctr	218-879-0800	1-800-657-3712
Granite Falls Tech College	320-564-4511	1-800-657-3247
Hennepin TC-Brooklyn Park	425-3800	1-800-345-4655
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Hibbing Comm. College	218-262-6700	1-800-224-4422
Honeywell Adult Education	951-0004	Minneapolis
HennTC-(CustomizedTrain.)	944-2222 Ext. 3513	Eden Pr.
Hutchinson Tech College	320-587-3636	1-800-222-4424
Inver Hills Comm. College	450-8500	InverGroveHts.
ItascaCommColl. GrandRpds	218-327-4460	1-800-996-6422
Jackson Technical College	507-847-3320	1-800-658-2522
Key Educational Services	545-8319	Golden Valley
KRS Computer	938-8823	St. Louis Park
Lake Superior Coll., Duluth	218-722-2801	1-800-432-2884
Lakewood Comm. College	779-3200	White Bear Lk.
Mankato Technical College	507-389-7200	1-800-722-9359
Manpower Training Dept.	375-0240	Mpls.
Marco Business Products	320-259-3000	St. Cloud
Metro StateUnivMpls/StPaul	772-7611 or	341-7234
Micro Knowledge	560-9733	BrookPk-Mtnka
Moorhead Technical College	218-299-6512	1-800-426-5603
Normandale Comm. College	832-6320	Bloomington
North HennCC MgmtInstitut.	424-0880	Brooklyn Park
North Henn Comm. College	424-0702	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk.
Open U, Inc.	349-9273	Minneapolis
OPM	946-1100	Eden Prairie
Pine Tech, Pine City	629-6764	1-800-521-7463

—COMPUTERS, INTRO—continued from previous page—

Pipestone Technical College	507-825-5471	1-800-657-2330
Premier Computer Ed. Inc	831-2960	Edina
Productivity Point	844-0710	Bloomington
Rainy River CC, Intl Falls	218-285-7722	1-800-456-3996
Red Wing Technical College	338-8271	1-800-657-4849
Rochester Comm. College	507-285-7219	Rochester
Science Museum	221-4722	St. Paul
St Catherine's Weekend Coll.	690-6542	St. Paul
St. Cloud Technical College	320-654-5089	1-800-222-1009
St LouisPark CommunityEd	928-6419	St. Louis Park
St. Paul Technical College	228-4306	St. Paul
Teamsters Service Bureau	221-1365	St. Paul
Technology Learning Center	297-5549	St. Paul
UMD Cont Ed & Extension	218-726-8113	Duluth
Up & RunningComputerServ	699-4307	St. Paul
Vermilion Comm. College	218-365-7200	1-800-657-3608
Willmar Technical College	320-235-5114	1-800-722-1151
Winona Technical College	507-454-4600	1-800-372-8164

COMPUTER OPERATING SYSTEMS

(Examples: Windows, DOS, Macintosh or Unix)

Albert Lea PIC Office	507-373-4398	
Albert Lea Technical College	507-373-0656	1-800-333-2584
AlternativeTrainingSolutions	434-8311	Andover
American Institute ofBanking	338-7851	Mpls.
Ameridata	290-4300	St. Paul
Anoka-HennepinTechCollege	427-8359	Anoka
Anoka-Ramsey CC	422-3303	Coon Rapids
Augsburg Weekend College	330-1743	Minneapolis
Bridge Data	933-3336	Minnetonka
Cambridge College Center	612-689-7000	Cambridge
Catapult Software	920-2657	Edina
CDI Computer Academy	851-0066	Bloomington
Central Lakes Coll.-Brainerd	218-828-5344	1-800-247-2574
CentralLakesCollege-Staples	218-894-3726	1-800-247-6836
CompuConnect	507-388-7121	Mankato
Computer City Supercenter	896-6484	Edina
Computer Knowledge	507-537-9554	Marshall
Computer Skills Inst.	644-7880	St. Paul
Creative Training Assoc.	934-3692	Chanhassen
Dakota County Tech College	423-8254	Rosemount
Dakota Cty TC CustomTrain.	423-8470	Rosemount
Data Source	844-1437	Edina
DTA Training Services	591-6155	Minneapolis
Dunwoody Institute	374-5800	Minneapolis
Earle Brown Center	624-2713	St. Paul
Edina Comm. Education	220-4644	Edina
Electronic Easel	659-2444	St. Paul
Euler Training Center	525-8915	Minneapolis
ExecuTrain	921-8844	Bloomington
Firstaff	893-7555	Bloomington
Firstaff	371-8245	Mpls.
Firstaff	223-5528	St. Paul
Firsttech Computer Training	374-8000	Minneapolis
Hagen Micro Age	866-3441	Richfield
Hennepin TC - Brooklyn Pk	425-3800	1-800-345-4655
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Hibbing Comm. College	218-262-6700	1-800-224-4422
Honeywell Adult Education	951-0004	Mpls
Henn.Tech-CustomizedTrain.	944-2222 X 3513	Eden Prairie
Inacomp	828-6723	Eden Prairie
Infinite Technologies	891-3171	Burnsville
Institute for Adv. Technology	831-9257	Edina
Inver Hills Comm. College	450-8500	InverGroveHts.
ItascaCommColl. GrandRpds	218-327-4460	1-800-996-6422
Key Educational Services	545-8319	Golden Valley
KRS Computer	938-8823	St. Louis Park
LakeSuperiorCollege-Duluth	218-722-2801	1-800-432-2884
Lakewood Comm. College	779-3200	White Bear Lk
Mankato Technical College	507-389-7200	1-800-722-9359
Manpower Training Dept.	375-0240	Mpls
Metro StateUniv.Mpls/StPaul	772-7611 or	341-7234
Micro Knowledge	560-9733	BrookPk-Mtnka
Normandale Comm. College	832-6320	Bloomington
North HennCCMgmtInstitut.	424-0880	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk
Northland—Thief River Falls	218-681-0793	1-800-959-6282
Office Information Systems	884-9199	Minneapolis
Open U, Inc.	349-9273	Minneapolis
OPM	946-1100	Eden Prairie
Premier	831-2960	Edina
Productivity Point Internatl.	884-0710	Bloomington
Red Wing Tech	338-8271	1-800-657-4849
Resolution	628-9844	Roseville
St. Paul Science Museum	221-4722	St. Paul
St. Paul Technical College	228-4306	St. Paul
Science Museum	221-4722	St. Paul
Small Business Assistants	891-3234	Apple Valley
Teamsters Service Bureau	221-1365	St. Paul
Technology Learning Center	297-5549	St. Paul
UMD Cont Ed & Extension	218-726-8113	Duluth
Valley Micro Assoc.	858-1120	Mpls.
Worthington Comm. College	507-657-3966	1-800-657-3966

COMPUTER PUBLISHING/GRAPHICS (Examples: Pagemaker, QuarkXPress, Illustrator, Powerpoint)

Advantage: User	561-3393	Brooklyn Park
Ameridata	290-4300	St. Paul
Anoka-HennepinTechCollege	427-8359	Anoka
Catapult Software	920-0016	Edina
Central Lakes Coll.-Brainerd	218-828-5344,	1-800-247-2574

Computer Training Internatl.	378-0665	Mpls.
Computers Don't Byte	218-722-5051	Duluth
Dakota County Tech College	423-8254	Rosemount
Data Source	844-1437	Edina
Desktop Computer Trainers	721-4134	Mpls.
Dunwoody Institute	374-5800	Minneapolis
Earle Brown Center	624-2713	St. Paul
Edina Comm. Education	220-4644	Edina
Electronic Easel	659-2444	St. Paul
Electronic Imaging Center	673-8980	Mpls.
ExecuTrain	921-8844	Bloomington
Firstaff	893-7555	Bloomington
Firstaff	371-8245	Mpls.
Firstaff	223-5528	St. Paul
Hagen Micro Age	866-3441	Richfield
Hand to Mouse Arts	724-1172	Mpls.
Hennepin TC - Brooklyn Park	425-3800	1-800-345-4655
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Hutchinson Tech College	320-587-3636	1-800-222-4424
Inacomp	828-6723	Eden Prairie
Institute for Adv. Technolgy	831-9257	Edina
Keith Gilbert Consulting	487-6081	St. Paul
Nordberg Consulting	937-0426	Eden Prairie
Rasmussen—Eagan	612-687-9000	Eagan
Rasmussen—Eagan	612-687-9000	Eagan
Copeland Buhl and Co.	473-0273	Wayzata
School of Communication Arts	721-5357	Mpls.
TIES Training Center	638-8780	Roseville
Type & More	724-3674	Mpls.
Wordsmith/words by design	551-1893	Plymouth

72 Still More PC Training

Computer Spreadsheet (Examples: MS Excel, Lotus)

Advantage: User	561-3393	Brooklyn Park
AlternativeTrainingSolutions	434-8311	Andover
Alto Consulting and Training	942-9101	Mpls.
American Indian OIC School	341-3358	Mpls.
AmericanInstitute ofBanking	338-7851	Mpls.
Ameridata	290-4300	St. Paul
Bridge Data	933-3336	Minnetonka
Catapult Software	920-2657	Edina
Computer C.A.T.	871-4306	Mpls.
Computer City Supercenter	896-6484	Edina
Computer Learning Center	639-6227	New Brighton
Computer Training Internatl.	378-0665	Mpls.
Connect Education Services	947-43820	Eden Prairie
Data Source	844-1437	Edina
Edina Comm. Education	220-4644	Edina
ExpertEase Software Training	551-9778	Plymouth
Hagen Micro Age	866-3441	Richfield
Heglund's PC Services	780-4027	Lexington
Hopkins Community Ed	988-4072	Eisenhower CC
Inacomp	828-6723	Eden Prairie
Manpower Training Dept.	375-0240	Mpls.
Metro II	686-6800	Mendota Hgts
Minneapolis Tech College	370-9400	Mpls.
PC Support Center	334-3242	Minneapolis
Nordberg Consulting	937-0426	Eden Prairie
Northland—Thief River Falls	218-681-0793	1-800-959-6282
Resolution	628-9844	Roseville
Small Business Assistants	891-3234	Apple Valley

Computer Word Processing (Exmpls: Word, WordPerfect)

Advantage: User	561-3393	Brooklyn Park
AlternativeTrainingSolutions	434-8311	Andover
Alto Consulting and Training	942-9101	Mpls.
American Indian OIC School	341-3358	Mpls.
AmericanInstitute ofBanking	338-7851	Mpls.
Ameridata	290-4300	St. Paul
Austin Technical College	507-433-0600	1-800-247-5039
Bridge Data	933-3336	Minnetonka
CMEF Services	872-1740	Mpls.
Catapult Software	920-2657	Edina
Computer C.A.T.	871-4306	Mpls.
Computer City Supercenter	896-6484	Edina
Computer Learning Center	639-6227	New Brighton
Computer Training Internatl.	378-0665	Mpls.
Connect Education Services	947-43820	Eden Prairie
Data Source	844-1437	Edina
Edina Comm. Education	220-4644	Edina
ExpertEase Software Training	551-9778	Plymouth
Hagen Micro Age	866-3441	Richfield
Heglund's PC Services	780-4027	Lexington
Hopkins Community Ed	988-4072	Eisenhower CC
Inacomp	828-6723	Eden Prairie
Institute for Adv. Technology	831-9257	Edina
Manpower Training Dept.	375-0240	Mpls.
Metro II	686-6800	Mendota Hgts
Minneapolis Tech College	370-9400	Mpls.
Northland—Thief River Falls	218-681-0793	1-800-959-6282
Nordberg Consulting	937-0426	Eden Prairie
Resolution	628-9844	Roseville
Small Business Assistants	891-3234	Apple Valley
St. LouisPark CommunityEd	928-6419	St. Louis Park
Worthington Comm. College	507-657-3966	1-800-657-3966

Short-Term Training for Computer Professionals

Computer Network Management

Ameridata	290-4300	St. Paul
Anoka-HennepinTechCollege	427-8359	Anoka
Anoka-Ramsey CC	422-3303	Coon Rapids
Augsburg Weekend College	330-1743	Minneapolis
Benchmark Computer	896-6800	Edina
Bridge Data	933-3336	Minnetonka
Brown Institute, NEC	721-2481	Mpls.
CDI Computer Academy	851-0066	Bloomington
Connect Computer	944-0181	Eden Prairie
Dakota County Tech College	423-8470	Rosemount
Data Source	844-1437	Edina
ExecuTrain	921-8844	Bloomington
Hennepin TC - Brooklyn Pk	425-3800	1-800-345-4655
Hutchinson Tech College	320-587-3636	1-800-222-4424
Inacomp	828-6723	Eden Prairie
Inver Hills Comm. College	450-8500	InverGroveHts.
Lakewood Comm. College	779-3200	White Bear Lk
MetroStateUniv. Mpls-StPaul	772-7611 or	341-7234
NEI	781-4881	Columbia Hgts
Normandale Comm. College	832-6320	Bloomington
North HennCC MgmtInstitut.	424-0880	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk.
Novell Inc.	892-2922	Minnetonka
Open U, Inc.	349-9273	Minneapolis
Productivity Point Internatl.	884-0710	Bloomington
Prof. Computer Dev. Corp.	933-6893	Minnetonka
Science Museum	221-4722	St. Paul
St. Paul Tech College	228-4308	St. Paul
Technology Learning Center	297-5549	St. Paul
St. Thomas Mgmt Center Mpls.	962-4600, 1-800-328-6819 ext 2-4600	

Computer Programming Languages
(Examples: COBOL, C, C++, Visual BASIC)

Academy Education Center	851-0066	Bloomington
Alto Consulting and Training	942-9101	Mpls.
ApplicationDevelopersTraing	943-1363	Mpls.
Augsburg Weekend College	330-1743	Minneapolis
Benchmark	896-6800	Edina
Bridge Data	933-3336	Minnetonka
Brown Institute, NEC	721-2481	Mpls.
CDI Computer Academy	851-0066	Bloomington
Computer Training Internatl.	378-0665	Mpls.
Dakota County Tech College	423-8254	Rosemount
DakotaCty TC Custom Train.	423-8470	Rosemount
Davis, Thomas & Assoc	591-6122	Minneapolis
Euler Training Center	525-8915	Minneapolis
ExecuTrain	921-8844	Bloomington
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Honeywell Adult Education	951-0004	Mpls
Int'l Ctr for Tech Bus. & Law	379-3922	Minneapolis
Intertech	459-6682	Newport
MinneapolisCommunityColl.	341-7004	Mpls.
Minneapolis Rehab Center	879-5435	Mpls.
North Henn. Comm. College	424-0702	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk
Oak Systems	542-8910	Minnetonka
Office Information Systems	884-9199	Minneapolis
PC Supply Center	334-3242	Minneapolis
Productivity Point Internatl.	844-0710	Bloomington
ProfessionlProgramDevelopers	894-5017	Burnsville
Red Wing Tech	338-8271	1-800-657-4849
Science Museum	221-4722	St. Paul
St. Paul Technical College	228-4306	St. Paul
Synergistic Systems	339-6348	Mpls.
UMD Cont Ed & Extension	218-726-8113	Duluth
U. of St Thomas OOD Lab	962-5515	St. Paul
Worthington Software	525-5901	Mpls.

OTHER SHORT-TERM TRAINING (NON–COMPUTER)

MANY OF THESE COURSES ARE AVAILABLE AT OTHER PUBLIC TECHNICAL COLLEGES AND COMMUNITY COLLEGES THROUGHOUT THE STATE

ACCOUNTING

Anoka-HennepinTechCollege	427-8359	Anoka
Copeland Buhl and Co.	473-0273	Wayzata
Rasmussen—Eagan	612-687-9000	1-800-852-6367
St. Thomas Mgmt Center	962-4600, 1-800-328-6819 ext 2-4600 Mpls.	

BUILDING MAINTENANCE

St. Paul Technical College	228-4306	St. Paul

BUSINESS (Examples: Starting a business, Small Business Mgmt, Basic bookkeeping) **Many of the courses at state tech colleges are in their Small Business Mgmt. programs.

Anoka-Henn.TechCollege**	427-8359	Anoka SmBusMgt
Central LksColl SmallBus.Ctr	218-828-5302	1-800-247-2574 ext. 302
Central Lks Coll.-Brain.Tech**	218-828-5344	1-800-247-2574
Concordia Coll Adult Lrng	641-8863	1-800-333-1180
Dakota CountyTechCollege**	423-8262	Rosemount
Eveleth Technical College**	218-744-3302	1-800-345-2884
Hennepin TC- Brooklyn Pk**	425-3800	1-800-345-4655
Hennepin TC- Eden Prairie**	944-2222	1-800-345-4655
Hutchinson Tech College**	612-587-3636	1-800-222-4424
Minnesota Technology	612/672-3463	
Minnesota Trade Office	297-4265	1-800-657-3858
Normandale Comm. College	832-6320	Bloomington
Northeast Metro Tech Coll.**	779-5828	White Bear Lk.
Open U, Inc.	349-9273	Minneapolis
Rasmussen—Eagan	612-687-9000	1-800-852-6367
Rochester Comm. College	507-285-7219	Small Bus. Ctr.
WomenVenture	646-3808	St. Paul

CARPENTRY

Albert Lea PIC Office	507-373-4398	If enough students

ELECTRONICS/COMPUTER

NEI	781-4881	Columbia Hts
Northeast Metro TechCollege	779-5828	White Bear Lk.
Open U, Inc.	349-9273	Minneapolis

EMERGENCY MEDICAL TECHNOLOGY

Anoka-HennepinTechCollege	427-8359	Anoka
Henn.Tech-HopkinsTech Ctr	988-9383 X10	1-800-345-4655
Northeast Metro TechCollege	779-5828	White Bear Lk.
Winona Technical College	507-454-4600	1-800-372-8164

INSURANCE

Alexandria Technical Coll.	320-762-0221	1-800-253-9884
Central Lakes Coll.-Brainerd	218-828-5344	1-800-247-2574
Central Lakes Coll.-Staples	218-894-3726	1-800-247-6836
ProSource Educational Serv	641-1000	St. Paul

ISSUES (Examples: Older Workers, Women, Job Search)

Albert Lea PIC Office	507-373-4398	Job Seeking
Dakota County Tech College	423-8254	Rosemount
Hennepin TC - Brooklyn Pk	550-2115	1-800-345-4655
Hennepin TC - Eden Prairie	550-3156	1-800-345-4655
ItascaCommColl. GrandRpds	218-327-4460	1-800-996-6422
LouTice training PICMarshall	507-537-0548	1-800-227-5027
NAPS (Nat'l Assn Prof Saleswomen)	331-7092	Mpls
Normandale Comm. College	832-6320	Bloomington
Northeast Metro TechCollege	779-5828	White Bear Lk.
Open U, Inc.	349-9273	Minneapolis
Prototype Career Services	224-2856	St. Paul
Women in Transition	924-1266	St. Louis Park
WomenVenture	646-3808	St. Paul

MACHINING — CNC (COMPUTER NUMERICAL CONTROL)

Anoka-Hennepin Tech	427-8359	Anoka
Central Lakes Coll. - Staples	218-894-3726	1-800-247-6836
Dunwoody Institute	374-5800	Minneapolis
Hennepin TC - Brooklyn Pk	425-3800	1-800-345-4655
Institute of Industrial Tech	785-2331	Blaine
Northeast Metro Tech	779-5828	White Bear Lk.
St. Paul Technical College	228-4306	St. Paul

PLUS MANY OTHER STATE TECHNICAL COLLEGES.

MANAGEMENT: (Examples: Supervisor Skills, ISO 9000)

Alexandria Technical College	320-762-0221	1-800-253-9884
Anoka-Hennepin Tech	427-8359	Anoka
Anoka-Ramsey CC	422-3303	Coon Rapids
Austin Comm. College	507-433-0505	1-800-747-6941
Central LksCollSmall Bus.Ctr	218-828-5302	Brainerd
Dakota County Tech College	423-8396	Rosemount
EmployersAssn: Mpls-StPaul	546-9100 or	644-9702
Hennepin T. C.	550-7177	Plymouth
ItascaCommColl. GrandRpds	218-327-4460	1-800-996-6422
Normandale Comm. College	832-6320	Bloomington
Northeast Metro Tech	779-5828	White Bear Lk.
Open U, Inc.	349-9273	Minneapolis
Red Wing Technical College	338-8271	1-800-657-4849
St. Paul Technical College	228-4306	St. Paul
UAW DislocatedWorker Prog	647-9322	St. Paul
St. Thomas Mgmt Center	Mpls. 962-4600, 1-800-328-6819 ext 2-4600	

MANUFACTURING

(Examples: Metal Fabrication, Statistical Process Control)

Bemidji Tech	218-755-2233	1-800-942-8324
Northeast Metro Tech	779-5828	White Bear Lk.
Northland—Thief River Falls	218-681-0793	1-800-959-6282
St. Paul Technical College	228-4306	St. Paul

MECHANICAL SKILLS

(Examples: Welding, Power Press, Boiler Operation)

Albert Lea Tech—Welding	507-373-0656	1-800-333-2584
Anoka-Henn.Tech—Anoka	427-8359	BoilerOperation
Bemidji Tech—Welding	218-755-2233	1-800-942-8324
Central Lks-Brainerd—Boilers	218-828-5344	1-800-247-2574
Central LksColl.-Staples	218-894-3726	Boilers, welding
Dunwoody Institute, Mpls.	374-5800	Boilers, welding
NE Metro Tech—Boilers	779-5828	White Bear Lk.
Pine Tech, Pine City—Boilers	629-6764	1-800-521-7463
St. Cloud Tech—Welding	320-654-5089	1-800-222-1009
St. Paul Tech — 6–9 months	228-4306	Precision Metal Fab

MEDICAL

(Examples: Nursing Asst., Ward Clerk, Home Health Aide)

Albert Lea Technical College	507-373-0656	1-800-333-2584
Bemidji Technical College	218-755-2233	1-800-942-8324
Eveleth Technical College	218-744-3302	1-800-345-2884
Hibbing Comm. College	218-262-6700	1-800-224-4422
Northland—Thief River Falls	218-681-0793	1-800-959-6282

PLUS MANY OTHER STATE TECHNICAL COLLEGES.

REAL ESTATE

Alexandria Technical College	320-762-0221	1-800-253-9884
Anoka-HennepinTechCollege	427-8359	Anoka
Central Lakes Coll.-Brainerd	218-828-5344	1-800-247-2574
Central Lakes College-Staples	218-894-3726,	1-800-247-6836
Eveleth Technical College	218-744-3302,	1-800-345-2884
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
ProSource	641-1000	St. Paul
Willmar Technical College	320-235-5114	1-800-722-1151

SECRETARIAL SKILLS

Austin Comm. College	507-433-0505	1-800-747-6941
Hennepin TC - Brooklyn Pk	425-3800	1-800-345-4655
Pine Tech—Pine City	629-6764	1-800-521-7463
St. Paul Technical College	228-4306	St. Paul
TC OIC	377-0150	Minneapolis

PLUS MANY OTHER STATE TECHNICAL COLLEGES.

TRAVEL AGENT

InterstateBusinessColl.-Fargo	701-232-2477	1-800-779-8080

CUSTOMIZED TRAINING:

SHORT, QUICK, TIMELY, CONVENIENT, PRECISE, RELEVANT, COST-EFFECTIVE

A woman in her mid-forties, call her Sharon, who had worked for years as an assembler at a Twin Cities area computer manufacturer, sensed a year ago that she probably would be facing a layoff in the coming months. She feared she'd need a new career. So on her own she enrolled in a two-year training program in office computers at a reliable local school, committing a considerable amount of her own money and time. But after only two weeks in the program, she was disappointed that she wasn't getting the personal attention that she thought she needed as a middle-aged person in career training for the first time. And she was frustrated because she couldn't keep up with others in the class who knew how to type better. As a result, one day she walked out and never went back, even though it meant losing a fair amount of the money.

Eventually, in the ensuing months, the layoff she feared actually happened. Luckily, toward the end of 1995, Sharon entered a "dislocated worker" program whose aim was to assist her in becoming re-employed.

> IT'S THE WAVE OF THE FUTURE.
> IT'S PART OF "LIFE-LONG LEARNING."

They put her in touch with Marcia Bay, Customized Training Consultant at St. Paul Technical College's customized training office, where she received a personal assessment of her situation—testing and advice—and eventually was helped to enroll in a special personal computer (PC) course.

The course had been developed for others in a situation similar to hers: a group of people who had worked in the "same old job" for years—in assembly, warehousing, or shipping and receiving—whose average age was 52, and who knew that one good way to compete in the modern job market was to pick up personal computer skills. The trainees had been tested and assessed to assure that computer training was within their abilities and interests—such assessment is critical to training success, says Ms. Bay.

However, Ms. Bay discovered that, although many of the people had some experience with computers on the job, that experience was usually limited to touching one key as a command to enter a program and then performing the necessary work by poking the keys with one index finger or, if more advanced, with two. Ms. Bay knew that without computer keyboard skills, the trainees use of the computer would be very limited; so she planned an 18-hour keyboard class (3 hours per day for six sessions) with 12 trainees per class and taught by specially-chosen instructors who focussed on the individual speeds and abilities of the trainees.

From that class the trainees went on to a nine-hour Windows 95 class and then on to specific office uses of computers—word processing, spreadsheets, accounting, etc. Sharon entered the keyboard course three months ago. It turned out quite different from the previous training experience that she had walked out of in frustration. She found that the specially-planned 3 to 4 hours per day really held her attention and that she got the guidance she needed from the instructor to successfully complete the program. Eventually, she gained familiarity with the keyboard, with Windows 95, and finally with Wordperfect, Access, and two other computer applications.

When Ms. Bay ran into her recently, Sharon was excited. She'd just been hired on a full-time job after only three months of the training. She exclaimed to Ms. Bay, "You totally evaluated my skills. The instructor was sensitive to my needs. And the training was just right for me."

Such is the story of customized training, a career-training concept coming into its own in the last few years. Basically customized training consists of tailor-made training programs based on what specific skills are needed *right now* by workers and by employers. It's the wave of the future. It's part of "life-long learning." And it's meant to keep you employable, with a present employer or a future one.

Customized training such as the example above is usually aimed at conveying specific skills to specific groups of workers in a short amount of time and in a timely way. For example:

- Teaching CNC machining (computer numerical control) to six metal shop workers about to be laid off from a defense contractor because of cutbacks in military spending.
- Teaching a new personal computer database package, Visual FoxPro, to forty underwriters and claims examiners at a life insurance company which has recently introduced the software in their home office.
- Assessing the training needs of a printing company that has ordered a flexographic printing machine which is individually geared to handle some unique type of work that the company does, that is, printing on plastic wrappers for loaves of bread. Customized training for the company's workers on that machine is set up within three weeks at the company's plant.

> MANY STATE TECHNICAL COLLEGES, COMMUNITY COLLEGES, AND UNIVERSITIES HAVE INTRODUCED *CUSTOMIZED TRAINING PROGRAMS.* CALL THEM & ASK. (Phone nos.: pp. 75, 62-63, 69)

Many state technical colleges and community colleges have introduced customized training programs in the recent past. In addition to their traditional one-year and two-year programs, they have found a great need for shorter, specific training. To find out if a school near you has customized training, call and ask. According to Craig Anderson, Vice President of Customized Training at the St. Paul Technical College, a much larger percentage of technical college and community college activity will be spent in customized training. This increase in activity is probably due to several reasons:

- Workplace skills are changing with greater rapidity and workers need retraining.
- The emergence of the personal computer and the constant introduction of new software demand new skills from large groups of workers and job-seekers.
- Corporate layoffs have stranded large numbers of workers without the up-to-date skills they need to compete effectively in the marketplace, & long-term training programs are often not practical.
- Employers are demanding considerable amounts of retraining of their employees.
- Employers and trainees are expecting more flexible and more just-in-time training, as opposed to traditional coursework which is offered at set times and set places.

The lessons of this type of training are that:

If employed, seriously consider taking advantage of training that an *employer* offers.

If unemployed, seriously consider taking advantage of skill training that an *employment program* offers.

And...customized training many times will be set up within a limited time frame for a small group of employees of a company. But if the group is too small the course may not be cost-effective, unless additional trainees are recruited. Therefore, opportunities may exist for outsiders to conveniently pick up a job skill that's in demand.

Remember, it's short, quick, timely, precise, convenient, relevant, and cost-effective.

EXAMPLES OF CUSTOMIZED TRAINING AVAILABLE

TYPE	PLACE	PHONE	
Accounting	St. Paul Tech	221-1365	1-800-227-6029
Accounting Mpls.	St. ThomasMgmtCentr	962-4600	1-800-328-6819 X2-4600
Better Business Writing	Austin CC	507-433-0532	1-800-747-6941
Boilers	Hutchinson Tech	320-587-3636	1-800-222-4424
Boilers	Detroit Lakes Tech	218-847-1341	1-800-492-4836
Boilers	Eveleth Tech	218-744-3302	1-800-345-2884
Building Contractors	Detroit Lakes Tech	218-847-1341	1-800-492-4836
CAD	St. Paul Tech	221-1365	1-800-227-6029
CAD	Anoka-Hennepin Tech	427-8359	1-800-247-5588
Carpentry	Eveleth Tech	218-744-3302	1-800-345-2884
Certified Network Admin	St. Paul Tech	221-1365	1-800-227-6029
CertifiedNetworkEngineer	St. Paul Tech	221-1365	1-800-227-6029
CNC Machinist	St. Paul Tech	221-1365	1-800-227-6029
CNC Machinist	Anoka-Hennepin Tech	427-8359	1-800-247-5588
Computer Job Skills	St. Paul Tech	221-1365	1-800-227-6029
Construction Safety	LkSuperiorColl.Duluth	218-722-2801	1-800-432-2884
Customer Service	Austin CC	507-433-0532	1-800-747-6941
Electronics	Eveleth Tech	218-744-3302	1-800-345-2884
Emergency Medical Tech	Winona Tech	507-454-4600	1-800-372-8164
Emergency Medical Tech	Hutchinson Tech	320-587-3636	1-800-222-4424
Field Electrician	Eveleth Tech	218-744-3302	1-800-345-2884
Flexographic Printing	St. Paul Tech	221-1365	1-800-227-6029
Hazardous Material Tech	LkSuperiorColl.Duluth	218-722-2801	1-800-432-2884
Hazardous Waste Mgmt	LkSuperiorColl.Duluth	218-722-2801	1-800-432-2884
Health Career Skills	Rochester CC	507-285-7217	
Health Career Skills	Brainerd Tech	218-828-5365	1-800-247-2574 X365
Health Career Skills	Staples Tech	218-894-3726	1-800-247-6836 X543
Heating/Air Conditioning	Eveleth Tech	218-744-3302	1-800-345-2884
Home Health Aide	Willmar Tech	320-235-5114	1-800-722-1151
Hospitality Management	Vermilion CC, Ely	218-365-7200	1-800-657-3608
Industrial Hygiene	Eveleth Tech	218-744-3302	1-800-345-2884
IndustrialSewingMachine	Red Wing Tech	612-388-8271	1-800-657-4849
Insurance	Worthington CC	507-657-3966	1-800-657-3966
Insurance	Brainerd Tech	218-828-5365	1-800-247-2574 X365
Insurance	Staples Tech	218-894-3726	1-800-247-6836 X543
Law Enforcement	DakotaTech, Rosemnt.	423-8369	1-800-548-5502
Managemt. Career Skills	Pine Tech, Pine City	612-629-6764	1-800-521-7463
Managemt. Career Skills	Brainerd Tech	218-828-5365	1-800-247-2574 X365
Managemt. Career Skills	Staples Tech	218-894-3726	1-800-247-6836 X543
Mgmt. Career Skills-Mpls.	St. ThomasMgmtCentr	962-4600	1-800-328-6819 X2-4600
Marketing	Brainerd Tech	218-828-5365	1-800-247-2574 X365
Marketing	Staples Tech	218-894-3726	1-800-247-6836 X543
Mill Writing	Eveleth Tech	218-744-3302	1-800-345-2884
Multimedia	LkSuperiorColl.Duluth	218-722-2801	1-800-432-2884
Nurse Aide	Canby Tech	507-223-7252	1-800-658-2535
Nursing	Pine Tech, Pine City	612-629-6764	1-800-521-7463
Nursing Aide	Willmar Tech	320-235-5114	1-800-722-1151
Office Administr. Support	St. Paul Tech	221-1365	1-800-227-6029
Plumbing Inspection	Red Wing Tech	612-388-8271	1-800-657-4849
Precision MetalFabrication	St. Paul Tech	221-1365	1-800-227-6029
Real Estate	Eveleth Tech	218-744-3302	1-800-345-2884
Real Estate	St. Paul Tech	221-1365	1-800-227-6029
Real Estate	Worthington CC	507-657-3966	1-800-657-3966
Real Estate	Brainerd Tech	218-828-5365	1-800-247-2574 X365
Real Estate	Staples Tech	218-894-3726	1-800-247-6836 X543
Secretarial	Austin CC	507-433-0532	1-800-747-6941
Small Business	Eveleth Tech	218-744-3302	1-800-345-2884
Small Business	Rochester CC	507-285-7217	
Small Business	St. Paul Tech	221-1365	1-800-227-6029
Supervision/ Managemt	Austin CC	507-433-0532	1-800-747-6941
Supervision/ Managemt	Brainerd Tech	218-828-5365	1-800-247-2574 X365
Supervision/ Managemt	Staples Tech	218-894-3726	1-800-247-6836 X543
Supervisory Management	DakotaTech, Rosemnt.	423-8369	1-800-548-5502
Telecommunications	DakotaTech, Rosemnt.	423-8369	1-800-548-5502
Vehicle Inspection	Detroit Lakes Tech	218-847-1341	1-800-492-4836
Waste Management	Vermilion CC, Ely	218-365-7200	1-800-657-3608
Welding	Eveleth Tech	218-744-3302	1-800-345-2884
Welding	St. Cloud Tech	320-654-5946	1-800-222-1009
Welding	Willmar Tech	320-235-5114	1-800-722-1151
Welding	Anoka-Hennepin Tech	427-8359	1-800-247-5588

FOR PHONE NUMBERS & CUSTOMIZED TRAINING NOT MENTIONED ABOVE:
The above are a few examples of the customized training that's available. Many, many other courses are offered. Most state technical colleges, community colleges, & universities have introduced customized training programs, or have other short-term training. Some of the phone numbers above are direct to customized training offices. To reach the customized training offices of technical colleges and community colleges not mentioned above, see the general phone numbers on pp. 62-63.
For four-year colleges, see p. 69.

WHERE TO GET MORE INFORMATION ABOUT CUSTOMIZED TRAINING
Because customized training has grown so rapidly, it's sometimes hard to know where and when customized courses are available. In order to deal with that problem, the customized training programs at St. Paul Technical College and the five other metropolitan area technical colleges are spearheading an effort to establish an Information Resource Center—a clearinghouse and coordinating agency for customized training, with special attention to the needs of unemployed and underemployed workers. The hope is that such a clearinghouse will help trainees and employers to easily access short-term training that's available. Eventually the resource center expects to include information on all customized training statewide. Look for the Information Resource Center in the last half of 1996.

76 Community Education

Looking for an inexpensive way to update your job skills? Community education may be the answer. Wherever there is a school district, there is a community ed center, generally providing coursework for adults at a reasonable cost. Some coursework is career-oriented. A possible drawback is that instructors are not necessarily trained as teachers. For information about community ed in your school district, call the district and ask for the community education director.

Funding for community ed is based on the population of the community (districts receive $6 per person), so the largest programs are in the largest school districts: Minneapolis, St. Paul, Anoka, Rosemount, Apple Valley, Bloomington and Duluth.

Many of the community education centers have free Adult Continuing Education courses such as G.E.D. preparation and math/English skills. Some, like Inver Grove Heights, Hopkins and Minneapolis, even offer Career & Job Skills, and Career Testing & Counseling. Often, free child care is available as well.

There are a variety of computer courses which may enhance your career. Most centers have computer courses for beginners and teach basic word processing, using one or more of Windows, Macintosh, and DOS. For example, there is Intro to WordPerfect for $36 at Inver Grove Heights High School, Intro to Word Processing on Macintosh for $35 at Orono High School, Introduction to DOS for $16 at Minneapolis Southwest High School, Windows I & II for $32 each at Columbia Heights High School or an Internet class for $8.50 at Roosevelt High School. Some have more advanced topics like Spreadsheets for $37 at Orono High School, Database Mgmt. (for creating and retrieving records) for $40 at White Bear Lake High School, Pagemaker (a desktop publishing program) for $25 at Minneapolis Edison High School.

The amount of material covered in each course and the number of different courses offered seem to vary from center to center so it may be worthwhile to call around for the class best suited to you.

In addition, many of the centers offer classes in career development. For example, North St. Paul High School has a class on Career Decision Making and another on Jobs of the Future, each for $5. Minneapolis Community College has classes on Resume Writing, Interviewing, and Job Searching, each $15. Minneapolis South High has Good Jobs without a College Degree for $8.

In the area of office finance, South Community School in Minneapolis has an Accounting Crash Course for $17.75. Pratt Community Ed Center in Minneapolis has Bookkeeping Fundamentals for $7.

The phone no. of the state director of community education is 297-4869.

The Advantages of Mature Workers

A Word On Age and Employment

As an older worker, whether you're 40, 50, or 60, you bring a unique combination of skills, maturity and expertise to the workplace. You are part of a generation that has a strong positive work ethic. You bring valuable qualities to the labor force, and you have a performance record of demonstrated ability. You know how to work with other people and how to handle responsibility as a result of years of experience. You may have become discouraged by attitudes some employers have toward older workers; there *is* age discrimination in the workplace. However, the very qualities employers want in any employee are the ones in which older workers excel. Some examples follow.

Employers are looking for employees with these qualities:	***If you are an older worker, you can emphasize these qualities:***
Low turnover—employees who stay with them (eliminates need to train new employees).	You're looking for a job with stability. On the average, older workers stay at a job three times longer than younger workers.
Less absenteeism.	You're reliable, punctual, & miss fewer days.
Good basic skills.	You have good basic math, spelling and writing skills. You bring years of experience and mature judgment to the job.
Conscientiousness, industriousness.	You have superb self-management skills. You give a full day's pay. You take pride in and care about the quality of your work.
Loyalty to the organization.	One of your best traits! You identify with the organization and feel a strong sense of responsibility to contribute.
Ability to get along well with co-workers and customers.	You have years of experience learning "people" skills. You know how to cooperate, collaborate and negotiate.
Flexibility and "grace under pressure."	Piece of cake! After all these years of crises, deadlines and plans that go awry, from family situations to wars, you've learned a few coping mechanisms. You've survived by learning to adapt to new situations.

So remember, you and your peers are better educated, more highly trained and skilled than any generation before you. You are healthier, more active and have a longer life expectancy. You still have much to contribute to the workplace, community and country.

—The AARP Midwest Regional Office

What Employers Say They Want From Job Applicants

Workers Over 40

There *are* resources available for workers over 40. The Feb. 28, 1996, issue of *Twin Cities Employment Weekly* (published by the *Twin Cities Reader*) contained a long article on the topic of older workers. One of the resources mentioned is "Job Search Over 40: Selling to Your Strengths," a monthly workshop & a booklet by the same name produced by: Prototype Career Services, St. Paul 612-224-2856 or 1-800-368-3197.

—What one group of Minnesota employers says about evaluating today's job applicants—

1. Most heavily relied upon METHODS TO SCREEN CANDIDATES for salaried and hourly positions.

Each employer chose five items from a list of eleven.

Salaried Workers

Percent of the 338 Responding Employers

Face-to-face interview	96%
Resume with cover letter	88%
Reference/background check	79%
Personal referral	56%
Application form	49%
Telephone interview	38%

Hourly Workers

Percent of the 338 Responding Employers

Face-to-face interview	94%
Application form	84%
Reference/background check	72%
Personal referral	58%
Test of job skill	45%
Resume with cover letter	41%

2. Most important THINKING SKILLS EMPLOYERS LOOK FOR when hiring candidates.

Each employer chose five items from a list of twelve.

Salaried Workers

Percent of the 338 Responding Employers

Solve problems	93%
Work with others	88%
Think creatively	86%
Know how to acquire and use information	82%
Identify and allocate use of resources	51%
Work with a variety of technologies	37%

Hourly Workers

Percent of the 338 Responding Employers

Work with others	93%
Solve problems	81%
Know how to acquire and use information	66%
Perform basic computations	65%
Think creatively	58%
Work with a variety of technologies	37%

3. Most important QUALIFICATIONS EMPLOYERS LOOK FOR when hiring candidates.

Each employer chose five items from a list of nine.

Salaried Workers

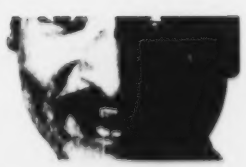
Percent of the 338 Responding Employers

Personal management skills	91%
Related work experience	88%
Education/training for the job	87%
Writing skills	60%
Computer skills	54%
English speaking skills	50%

Hourly Workers

Percent of the 338 Responding Employers

Related work experience	79%
Basic reading skills	75%
Basic math skills	74%
Education/training for the job	62%
English speaking skills	51%
Personal management skills	43%



Source: A survey conducted by the Employers Association, Inc. and the Minnesota Business Partnership in the summer of 1994. The survey was completed by 338 Minnesota companies, and although 68% were manufacturers, companies *not* producing factory goods responded to the survey quite similarly to the manufacturers.

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Where to Call for Jobs & Training Help

Find out if you are eligible to use these services.

Training services may include basic education, vocational counseling, temporary work experience, on-the-job training, career training, job-seeking help, and job placement.

To find out if you qualify for services, call the phone number serving your area (see below) or 1-800-456-8519, and you will be directed to the office nearest to you.

Northwest Job Training Program
Crookston 218-281-6020
Call toll-free: 1-800-657-3791

Counties: Kittson, Marshall, Norman, Polk, Red Lake, Roseau, Pennington

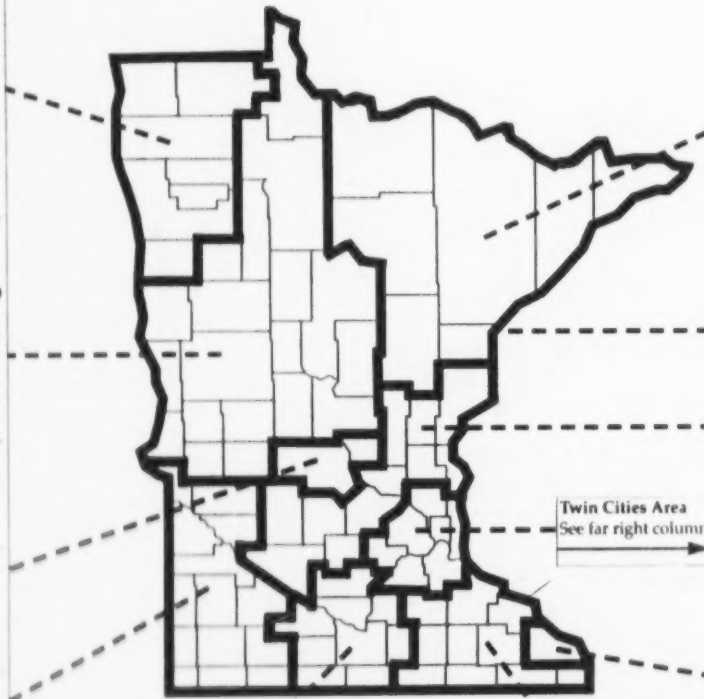
Rural Minnesota Concentrated Employment Program (CEP)
Detroit Lakes 218-847-9205
Call toll-free: 1-800-492-4804

Counties: Becker, Beltrami, Cass, Clay, Clearwater, Crow Wing, Douglas, Grant, Hubbard, Lake of the Woods, Mahnomen, Morrison, Otter Tail, Pope, Stevens, Todd, Traverse, Wadena, Wilkin

Stearns and Benton Counties J.O.B.S. Program
St. Cloud 320-202-2100

Southwest Job Training Program
Marshall 507-532-4411
TTY 1-800-422-0687

Counties: Big Stone, Chippewa, Cottonwood, Jackson, Lac Qui Parle, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Rock, Swift, Yellow Medicine



South Central Private Industry Council
Job Training Program
Mankato 507-345-1837
Call toll-free: 1-800-767-7139

Counties: Blue Earth, Brown, Faribault, Le Sueur, Martin, Nicollet, Sibley, Waseca, Watonwan

For other information, call:

Twin Cities: 612-296-0928 or Outside T.C.: 1-800-456-8519

Southeastern Minnesota Private Industry Council Job Training Program
Rochester 507-281-4670
Call toll-free: 1-800-543-5627

Counties: Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha

Northeast Minnesota Office of Job Training
Virginia 218-749-1274
Call toll-free: 1-800-325-5332

Counties: Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, St. Louis (not including Duluth; does **not** serve Duluth residents)

City of Duluth Job Training Program
Duluth 218-723-3771

Serves only those who live inside City of Duluth

(Central Minnesota) Private Industry Council 5
Annandale 320-274-2650
Call toll-free: 1-800-284-7425

Counties: Chisago, Isanti, Kanabec, Kandiyohi, McLeod, Meeker, Mille Lacs, Pine, Renville, Sherburne, Wright

Winona County Training and Employment
Winona 507-453-2920

Independent Programs
- Minnesota Teamsters Service Bureau 612-647-6478
- UAW Dislocated Worker Program 612-647-9322
- Employers Assn. Employment Services 612-647-1560

Twin Cities Area

Hennepin-Scott-Carver Employment and Training Consortium
(Does not include Minneapolis)
612-348-5203

Counties: Scott, Carver, Suburban Hennepin only (Does **not** serve Minneapolis residents)

City of Minneapolis Employment and Training
612-673-5700

Serves only those who live inside City of Minneapolis

City of St. Paul Employment and Training
612-228-3262

Serves only those who live inside City of St. Paul

Anoka County Job Training Center
Blaine
612-783-48[illegible]

Dakota County Jobs and Training Dept.
Hastings
612-438-8345

Ramsey County Job Training Center
(Does not include St. Paul)
Maplewood
612-770-8900
County: Suburban Ramsey County only (Does **not** serve St. Paul residents)

Washington County Job Training Center
Stillwater
612-430-6850